# Archaeology and History of Upper Galum Creek, Perry County, Illinois

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AMERICAN RESOURCES GROUP, LTD.

Preservation Series 2

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To Bill
from Mike McNerney

# ARCHAEOLOGY AND HISTORY OF UPPER GALUM CREEK PERRY COUNTY, ILLINOIS

Phase I Survey and Phase II Testing
at Consolidation Coal Company
Northfield, Burning Star Mine #4

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## PREFACE

This cultural resources survey and assessment is a revised version of the original report (Haas and McNerney 1980) submitted to the Illinois Department of Conservation, State Historic Preservation Office, by Consolidation Coal Company as part of the permit requirements for the development of the Northfield surface mine at Burning Star Mine #4, Perry County, Illinois. It represents volume two in American Resources Group, Ltd.'s, Preservation Series. A total of 117 archaeological sites consisting of 100 prehistoric and 29 historic components and 5 architectural sites was located and evaluated for National Register of Historic Places (NRHP) significance. In addition, Phase II testing was conducted at 13 prehistoric sites. Of the 129 archaeological components and 5 architectural sites evaluated, 38 sites were recommended for Phase III mitigation.

Future volumes in the series will present the results of ongoing survey and mitigation activities conducted by American Resources Group, Ltd., for Consolidation Coal Company as well as other preservation and cultural resource topics. Those volumes which relate to cultural resource assessments in the till plains physiographic region of southern Illinois will explore a variety of research questions including prehistoric settlement patterns, subsistence strategies, chert exploitation, stone tool technology, and ceramic change. Much historical and historic archaeological research is being conducted and will also be presented in future volumes.

We would like to thank Consolidation Coal Company for their commitment to preserving the cultural heritage of Illinois. Thanks also to Vic Ordija and the many other employees of Consolidation Coal Company's Illinois operations for their fine support and cooperation.

Michael J. McNerney
Principal Investigator

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# INTRODUCTION

This report presents the results of an intensive cultural resources survey, testing, and assessment of selected sites at the Northfield, Burning Star Mine #4, Perry County, Illinois. The Northfield is located along upper Galum Creek, northeast of Cutler, Illinois (Map 1) and is an extension of mining operations which began south of Jamestown. Approximately eight square miles (2,023 ha) are contained in the research area, which is drained by Galum Creek and two intermittent tributaries, Rock Fork Creek on the west and Bonnie Creek on the east (Map 2) (see supplement, inside back cover).

This assessment was part of a larger cultural resources assessment project which included similar research at Deep Strip #3, Burning Star Mine #2 (Higgins et al. 1984) and at Burning Star Mine #3 (Powell et al. 1982a), all conducted for Consolidation Coal Company, Midwestern Region, by American Resources Group, Ltd., Carbondale, Illinois.

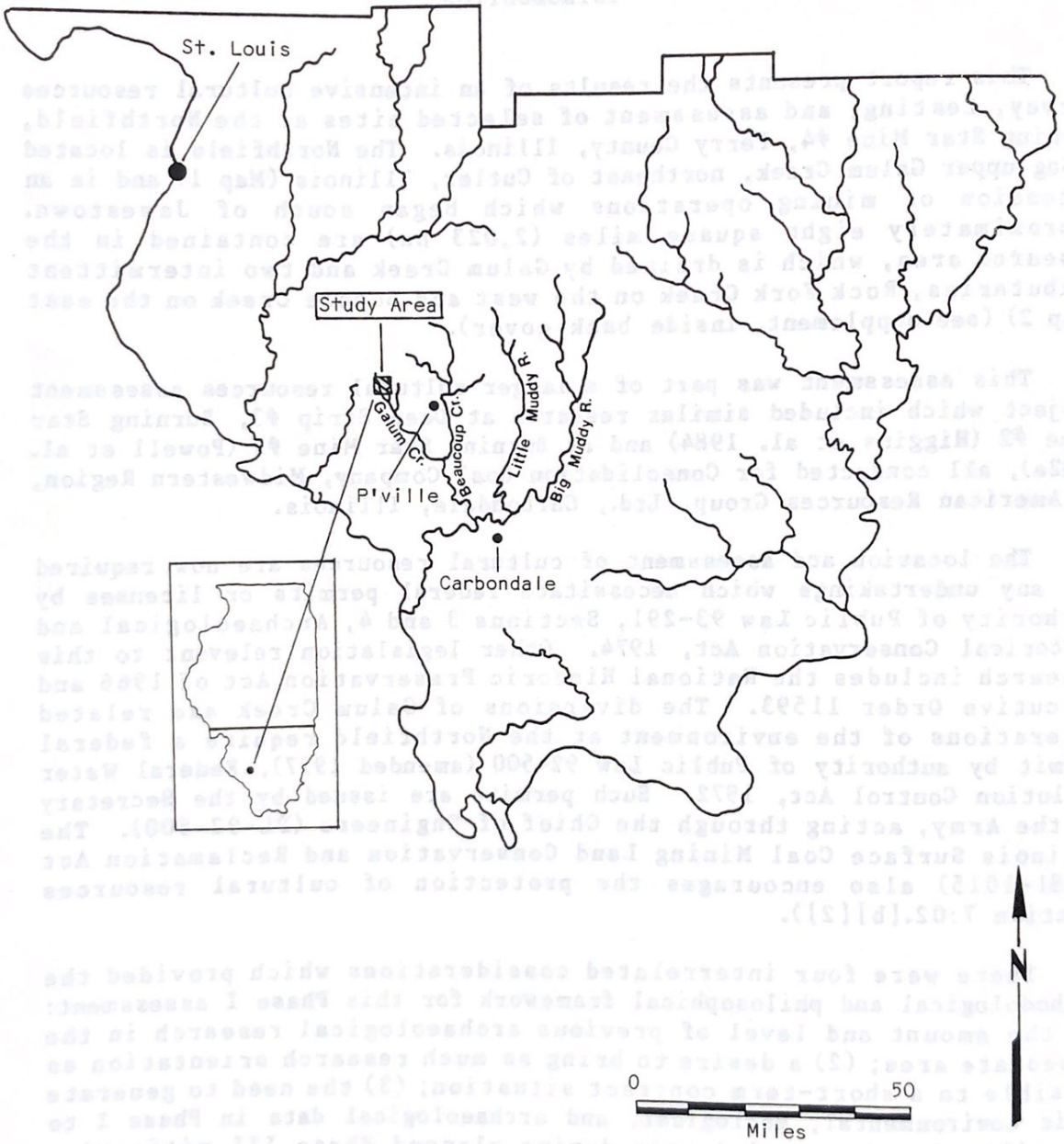
The location and assessment of cultural resources are now required for any undertakings which necessitate federal permits or licenses by authority of Public Law 93-291, Sections 3 and 4, Archaeological and Historical Conservation Act, 1974. Other legislation relevant to this research includes the National Historic Preservation Act of 1966 and Executive Order 11593. The diversions of Galum Creek and related alterations of the environment at the Northfield require a federal permit by authority of Public Law 92-500 (amended 1977), Federal Water Pollution Control Act, 1972. Such permits are issued by the Secretary of the Army, acting through the Chief of Engineers (PL-92-500). The Illinois Surface Coal Mining Land Conservation and Reclamation Act (PA81-1015) also encourages the protection of cultural resources (Section 7:02.[b][2]).

There were four interrelated considerations which provided the methodological and philosophical framework for this Phase I assessment: (1) the amount and level of previous archaeological research in the immediate area; (2) a desire to bring as much research orientation as possible to a short-term contract situation; (3) the need to generate basic environmental, geological, and archaeological data in Phase I to be utilized and expanded upon during planned Phase III mitigation efforts; and (4) a desire to conduct the assessment in such a way that significant archaeological information would be gained without interrupting mining schedules.

Site survey and testing at the Northfield began the end of May 1979 and continued until mid-November 1979. Laboratory analysis, research,

MAP 1

Study Area
Upper Galum Creek



and report writing was carried out from December 1979 through May 1980. Daniel R. Haas was Project Supervisor and is the principal author. Joseph M. Nixon provided supervisory and research assistance. David C. Austin conducted the historical research and authored those sections. M. Colleen Hamilton analyzed the historic artifacts and wrote those sections. Michael J. McNerney authored the evaluation and recommendations section. The prehistoric cultural context section of this report has been adapted directly from Barr et al. (1982) and Higgins et al. (1984:19-41), with the addition of some information on stone box burials. The architectural portions of this report were investigated and authored by Gail White. Terry J. Powell contributed to various sections of the text. Randall D. Dawdy drew the site maps and illustrations. Archaeological technicians who participated in the various aspects of the research included Frederick T. Bardle, Jeffrey S. Blair, Alan J. Brown, Elizabeth Drake, Diane K. Ellison, Jeffrey M. Friend, Lee H. Hill, Michael Lang, Donald G. Leonard, Thomas E. McGinnis, Patrick J. McNerney, James C. Nesti, Nan Ette Story, Bonnie Swift, Charles H. Trotter, Larry D. Vancil, and Pamela Yung.

Several consultants also assisted in preparing sections of the report: William M. Cremin, floral identification; Fred Hill, faunal identification; Jay K. Johnson, lithic technology; Joyce McKay, historical archaeology; Stanley E. Harris, Jr., geology; Lee Elliot, environmental reconstruction; and John W. Voigt, environmental reconstruction and ecology. Gail White, AIA, evaluated the intact farmsteads containing standing structures.

## ENVIRONMENTAL CONTEXT

### Introduction

A basic understanding of the prehistoric natural environment, particularly those aspects relating to the availability of exploitable natural resources, is important for archaeology. A short summary of major environmental factors in the Northfield is presented below.

### Physiographic Setting

Galum Creek is located in the upper portion of the Big Muddy River drainage basin, a tributary of Beaucoup Creek (Map 3). The northern tributaries of the Big Muddy River are within the Southern Till Plain division of the Central Lowlands physiographic province (Fenneman 1938; Leighton et al. 1948). This section of the division is characterized by low relief and rather broad, flat upland divides dissected by a number of streams possessing many small tributaries. Before extensive cultivation, the flat uplands supported grasslands with scattered post oaks, while the valley bottoms and slopes were occupied by mixed hardwood forests.

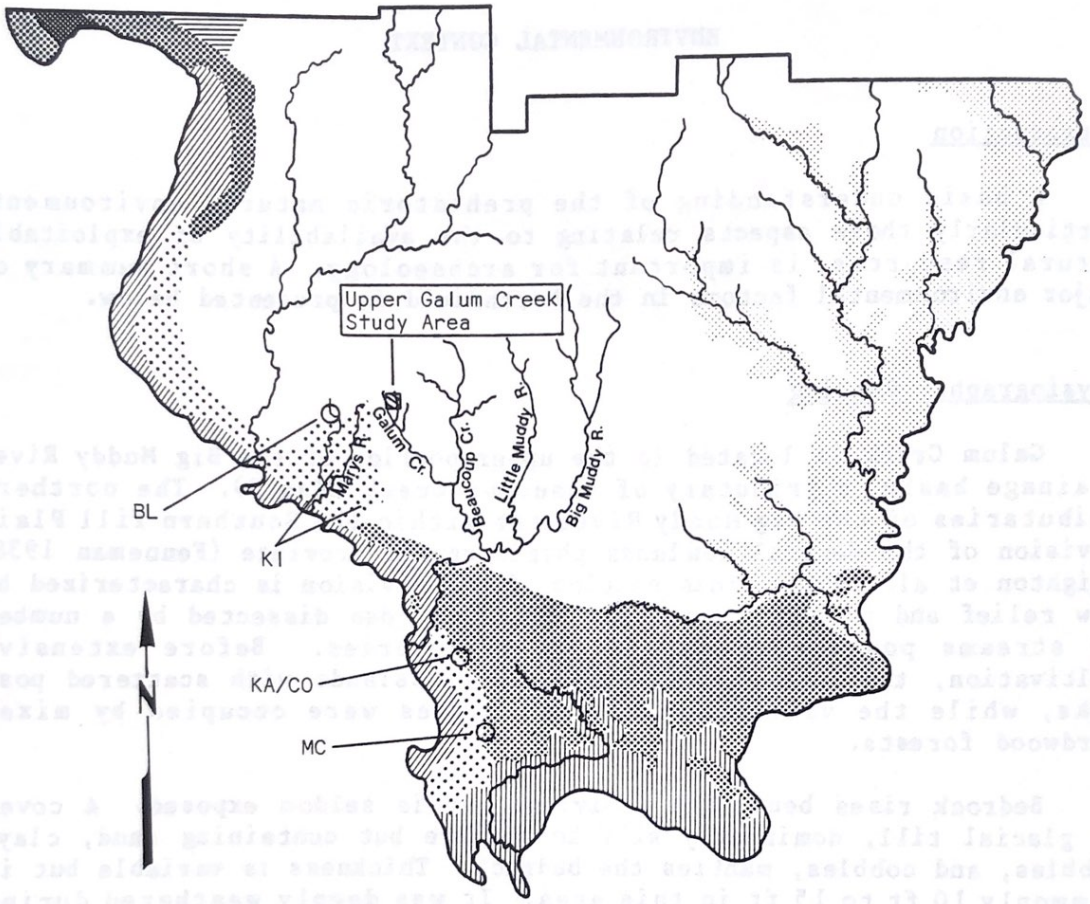
Bedrock rises beneath the divides but is seldom exposed. A cover of glacial till, dominantly silt in texture but containing sand, clay, pebbles, and cobbles, mantles the bedrock. Thickness is variable but is commonly 10 ft to 15 ft in this area. It was deeply weathered during the Sangamonian interglacial interval before being covered by windblown silts (loess) to a depth of 5 ft to 7 ft. Modern soils are thus formed mainly in the loess.

The valley bottoms are broad and flat and subject to repeated flooding. Second bottoms or terrace segments also are present; these are more extensive downstream from the area being considered. Stream channels tend to be rather narrow and twisting. Although they seem to have a large capacity, they overflow their banks regularly during wet weather. Many abandoned channels show repeated changes in channel locations, leaving oxbow lakes and sloughs.

Beneath the present valley floor is a fill of alluvium. The fill is nearly 100 ft thick near Murphysboro and perhaps as much as 50 ft near Jamestown. The uppermost material is mostly silt, probably derived from erosion of the loess. At Burning Star #4, beneath the former channel of Galum Creek, the fill thickness was found to be on the order of 30 ft. Stratified layers of fine-grained sand, organically rich

MAP 3

Environmental Setting
Upper Galum Creek




LEGEND

Natural Divisions

- Upper Mississippi River and Illinois River Bottomlands Division (Illinois River Section)
- Western Forest-Prairie Division (Carlinville Section)
- Middle Mississippi Border Division
- Southern Till Plains Division
- Wabash Border Division
- Ozark Division
- Lower Mississippi River Bottomlands Division
- Shawnee Hills Division
- Coastal Plains Division

Chert Source Areas

- BL - Blair chert reference section
- CO - Cobden
- KA - Kaolin
- MC - Mill Creek
- KI - Kinkaid

0 50
Miles

silt, and sand containing logs, twigs, and nuts underlie the alluvial silts.

A few miles to the south, a high bedrock ridge, the Campbell Hill anticline, marks the margin of the Shawnee Hills. Galum Creek flows southward to this upland and then turns eastward to join Beaucoup Creek. Massive Caseyville sandstones are brought up above the surface on the flanks of the Campbell Hill anticline. Illinoian glaciers actually overtopped this highland and reached into the Mississippi Valley. Glacial boulders and cobbles are abundant in some of the modern eroding stream channels and undercut valley sides. The upland became wooded and offered inhabitants of the region a set of resources supplementary to those of the bottomlands, prairies, and flatwoods.

## Bedrock

Bedrock is a part of the Carbondale formation and may include the lower part of the overlying Modesto formation. Shale, sandstone, limestone, and coal are present. The section is well known from the many coal operations in the region. Figure 1 indicates the typical sequence of units, although there is considerable lateral variation.

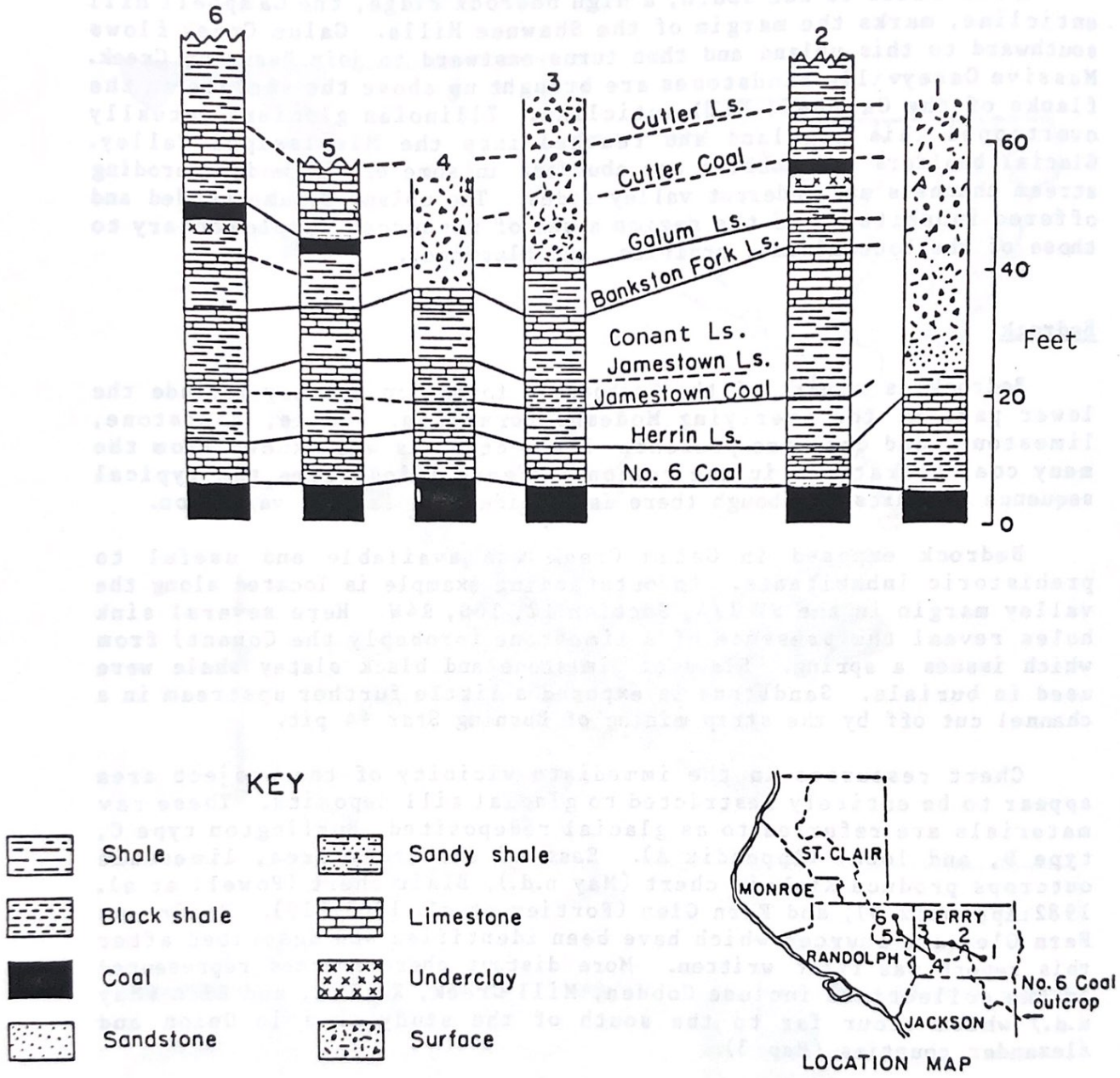
Bedrock exposed in Galum Creek was available and useful to prehistoric inhabitants. An outstanding example is located along the valley margin in the SW 1/4, Section 12, T6S, R4W. Here several sink holes reveal the presence of a limestone (probably the Conant) from which issues a spring. Slabs of limestone and black slatey shale were used in burials. Sandstone is exposed a little further upstream in a channel cut off by the strip mining of Burning Star #4 pit.

Chert resources in the immediate vicinity of the project area appear to be entirely restricted to glacial till deposits. These raw materials are referred to as glacial redeposited, Burlington type C, type D, and local (Appendix A). East of the study area, limestone outcrops produce Kinkaid chert (May n.d.), Blair chert (Powell et al. 1982:Appendix B), and Fern Glen (Fortier et al. 1983:219). Blair and Fern Glen are sources which have been identified and described after this report was first written. More distant chert sources represented in the collections include Cobden, Mill Creek, Kaolin, and Elco (May n.d.) which occur far to the south of the study area in Union and Alexander counties (Map 3).

## Geologic History

At the end of the Paleozoic era, 255 million years ago, the central part of the continent was warped slowly upward, exposing the rock to erosion. Relief was never great, with uplift and erosion very nearly keeping pace.

Advance of the Pleistocene glaciers in the last million years finally resulted in burial of the Paleozoic bedrock. The drainage




**Cross section showing the strata overlying No. 6 Coal.**

Figure 1

Geologic Column of Perry and Randolph Counties
(adapted from Smith 1958)

systems, developed in the Central Lowlands of North America, were disrupted and have gone through successive alterations as Pleistocene glaciers advanced and retreated.

In the Galum Creek area, the main glacial deposits are related to the Illinoian glaciation. Although covered by till deposits and some sand and gravel, the preglacial valley system apparently was not completely obliterated. Post-Illinoisan valleys are very nearly superimposed on their predecessors. The Illinoian till plain originally was quite flat. The new surface streams gradually incised that plain, and many small tributaries have extended themselves so as to dissect the flat divides. Nevertheless, rather extensive, even uplands still survive.

During the last glacial stage, Wisconsinan meltwaters carried vast quantities of sediment down the main waterways, including the Kaskaskia just a few miles to the west. Beaucoup Creek and the Big Muddy Basin did not receive this outwash. Instead, backwaters from the aggrading sediment fill in the Mississippi Valley created extensive shallow lakes in the lower portions of these valleys. The lake itself probably did not reach upstream to the Jamestown area, but alluviation did result in broad, frequently flooded valley flats.

Simultaneously, the loess silts were deposited across the uplands and into the lakes. These silts were derived from the outwash deposits of the major valleys, particularly the Mississippi Valley. During the summer melting season, vast quantities of water and sediment were transported; but, during the winter freeze, the sediment load was left spread across the broad floodplains. Now bare and without vegetative cover, the loose sand and silt were subject to wind erosion. The lighter silt fraction was carried out of the valley bottom and deposited on the vegetation of the adjacent upland.

The late Pleistocene Lake Muddy must have persisted for thousands of years. It may never have been deep, and its level probably fluctuated annually. High water levels would come during the spring and summer, receding in fall and winter. So far, shoreline features such as beaches and eroded bluffs have been unidentifiable. Lack of these features has been attributed to fluctuating water levels and subsequent erosion and veneering by colluvial wash of the upland loess. Nevertheless, lake deposits are extensive, as indicated by broad terrace flats and evenly bedded stratified sediments enclosing snail, clam, and ostracod fossils. The elevation of the lake probably ranged from 390 ft to 420 ft above sea level or even higher.

After retreat of the glaciers, the glacio-fluvial load of sediment ceased, and erosion of the aggraded valley fill began. Simultaneously, tributaries such as the Big Muddy deepened their channels, and the lakes finally were drained. However, in the upstream reaches, channel deepening proceeded very slowly into the broad, flat expanses of the old lake beds. Wetlands persisted into modern times, and annual floods covered large areas of bottomland. Ditching of these lowlands still has not eliminated all the wet areas.

## Climate

Higgins et al. (1984) reviewed relevant paleoclimatological research in their report of work at Deep Strip #3, Burning Star Mine #2, Perry County, Illinois. In brief, they noted that information accumulating in Illinois "tends to support the contention of vegetational stability for at least the last 4,000 - 7,000 years," while not dismissing "the importance of minor climatic change to cultural subsistence systems" (Higgins et al. 1984:13).

The present climate of Perry County is characterized by warm to hot summers and cold winters typical of a humid, temperate continental climate. The mean annual temperature is 14° C (57° F) (Trewartha et al. 1967). Annually, frost-free days average 168, while rainfall averages 120 cm (40 in), evenly distributed except for slightly higher amounts in April and May. Northwest winds prevail during winter and southwest winds in summer.

## Soils

Five soil associations of Perry County (Miles et al. 1970) are represented in the Northfield project area. Each soil association is listed below beside the percentage of land it covers in the project area:

| | |
|---|---|
| Cisne-Hoyalton | 16% |
| Bluford-Wynoose | 11% |
| Ava-Bluford-Blair-Belknap | 32% |
| Hickory-Ava-Belknap | 21% |
| Bonnie-Belknap | 20% |

Perry County soils generally formed on 4 ft to 5 ft of loess over glacial till in flat to gently rolling areas, directly over glacial till on steepest areas, and in alluvium in stream valleys and bottomlands.

## Environmental/Vegetation Zones

Three primary vegetation studies have been compiled in areas of the Mt. Vernon Hill Country (Denny 1972; Pulcher 1975; Zoanetti 1974). The studies have utilized a variety of information, including Government Land Office (GLO) survey records, soil data, general topography, and historic accounts.

Unfortunately, Elliot and Voigt (n.d.) found substantial poor quality in the GLO records for the Northfield area (T5S, R4W) in their work for this project. Although prairie was significantly associated with the Cisne-Hoyalton soil association, "no single tree species were significantly associated with any soil type" (Elliot and Voigt n.d.:2). The GLO surveyor did note that "lands not occupied by prairie were second rate oak-hickory timber with undergrowth consisting of shrub oak-hickory, . . . grapevines, briers, and hazel" (Elliot and Voigt n.d.:3).

The following summarizes the four zones established by Zoanetti (1974) and elaborated by Pulcher (1975) wherein they subdivide Denny's (1972) "post oak flats" into post oak flats and slope woodland.

## Bottomland Forest

This zone generally parallels the extent of the present Bonnie-Belknap soil association while perhaps following local intrusions of Belknap soils along minor drainageways into the adjacent slope woodland. Englemann's (1863) early account of this zone in Perry and Jackson counties states:

> The principal creek bottoms . . . have a soil very similar to that of the flats, perhaps a little coarser, but its upper portion is considerably more mixed with vegetable mould and about as dark as the prairie soil. They are overflowed by freshets and very naturally supplied with the necessary moisture from the creeks, even in the driest season, and their growth is thereby regulated. The timber is heavy and very tall and consists principally of the swamp white oak (Quercus bicolor) and the pin oak (Q. palustris), with some scalybarked hickory (Carya alba), but where the creeks enter the limits of the underlying limestones and shales, the growth is much more varied and consists, in addition to the above named trees, of bur oak (Q. macrocarpa), red oak (Q. rubra), laurel oak (Q. imbricaria), ash, black walnut, hazel, and many others (Englemann 1863:394).

In his discussion above, Englemann notes that "where the creeks enter the limits of the underlying limestones and shales the growth is much more varied . . ." Although ambiguous, this area of more varied growth easily could be interpreted as the upstream portions of the creeks where they are above the Pleistocene Lake Muddy fill, are in narrower valleys, and occasionally scour into hillsides exposing "limestones and shale." If this is correct, then the Northfield area bottomland, being in the upper reaches of Galum Creek, would be an area of higher tree species diversity than the wider bottomlands further downstream.

Zoanetti (1974:11) notes that bottomland forests provide "niches for various plants, fish, and mussels which could be successfully exploited by prehistoric man [plus] . . . a convenient supply of nuts and acorns as well as other fruits and woods."

## Slope Woodland

This zone generally coincides with the Ava-Bluford-Blair-Belknap and the steeper Hickory-Ava-Belknap soil assoications. However, Bluford soils of the former association may be more appropriately considered as characteristic of the post oak flats, while, as already mentioned, Belknap soils are typical of the bottomland.

Zoanetti's (1974) division of Denny's (1972) post oak flat community into a post oak flat and a slope woodland zone was felt to be necessary

> . . . due to the degree of slope and drainage characteristics of an area needed to support a Post Oak Flats community. The Slope Woodland is a logical division within the area since distinct slope vegetational communities are noted for the Shawnee Hills section of Illinois [Voigt and Mohlenbrock 1964]. Although the topography of the Galum Creek drainage in western Perry County is not as accentuated as that of the Shawnee Hills, the concept of a distinct slope community should not be ignored in Perry County (Zoanetti 1974:12).

Arriving at a concensus about the tree species in the slope woodland has proven difficult. As mentioned earlier, Elliot and Voigt (n.d.:2), in studying Northfield's GLO records, found "no single tree species . . . associated with any soil type." Zoanetti (1974), while noting the lack of data from Perry County, felt that Voigt and Mohlenbrock's (1964) information

> from several upland slope localities in Jackson County [was] . . . generallyapplicable for the Slope Woodland areas of Perry County . . . indicat[ing] a slope community dominated by white oak (Quercus alba) and black oak (Q. Veluntina). Red oak (Q. rubra) and pignut hickory (Carya glabra) are important subdominant tree species in this community (Zoanetti 1974:9).

Englemann's (1863:394) "white oak lands" certainly fall into the slope woodland zone. He describes these as being found "only in the steep breaks of the creeks and at a few other points, but . . . altogether subordinate."

In summary, slope woodland probably represents a quite varied zone with increasing similarity to bottomland as the lower slopes and small drainageways are approached and with increasing similarity to post oak flats as the topography levels on the more gently rolling uplands. In various restricted areas, special environmental conditions may produce distinct vegetation (e.g., the steep "white oak lands," areas around natural springs, etc.).

## Post Oak Flats

The post oak flats generally coincide with the Bluford-Wynoose soil association. Englemann's (1863) account of this zone in Perry and Jackson counties states:

> The "flats" are nearly level stretches of upland, . . . and are timbered principally with single large and widely scattered post oak . . ., of sturdy, thickset growth, with stout crooked branches and a tattered top. Their trunks are generally in part rotten, perhaps in consequence of injuries which they received by fire during earlier periods of their

> growth; more likely, however, it appears to me, in consequence of the, at times, quite unfavorable conditions of the grounds upon which they grow, which may produce disease in the tree. The trees of the large post oak stand wide apart, and are interspersed with blackjack . . . and in places young post oak . . . These woods are quite open, and their white soil is only scantily covered with vegetation. Even where the annual fires are kept out, undergrowth is very slow in springing up in the regular flats (Englemann 1863:390).

Today, farmers in the Perry and Jackson county areas still refer to these "flats" as "post oak ground" or "white dirt" and say that the soil drys out too slowly in the spring but is the first to suffer drought in the summer.

Besides post oak (Quercus stellata) and blackjack oak (Q. marilandica), Zoanetti (1974:8-9) notes that "other oaks and hickories are encountered in areas favorable to their growth." In wet areas, pin oak (Q. palustris) is found along with other trees requiring moisture, such as shingle oak (Q. imbricaria).

### Prairie

Elliot and Voigt (n.d.:4) found "a significant association ($P < .01$) between prairie vegetation and the Cisne-Hoyalton soil association" using GLO data (T5S, R4W) in the Northfield project area.

The exact composition of the original prairies in the project area remains problematic. However, Voigt and Mohlenbrock (1964), in discussing southern Illinois, note that

> big bluestem, at the time of settlement, characterized the mesic prairies perhaps more than any other species, [while] today the railroad and highway right-of-way strips are dominated by Indian grass which usually indicates a mild disturbance such as frequent burning (Voigt and Mohlenbrock 1964:150).

In addition to big bluestem (Andropogon gerardii), other important grasses in the original prairie were Indian grass (Sorghastrum nutans), wild rye (Elymus canadensis), switch grass (Panicum virgatum), and slough grass (Spartina pectinata) (Voigt and Mohlenbrock 1964:150). Figure 2 presents an idealized cross section of the environmental zones in the project area.

### Fauna

A modern faunal survey for the project area was conducted by the Cooperative Wildlife Research Laboratory, Southern Illinois University, Carbondale (Jenkusky et al. 1979:Appendices B-E). This modern record may prove valuable for comparison to archaeologically derived material.

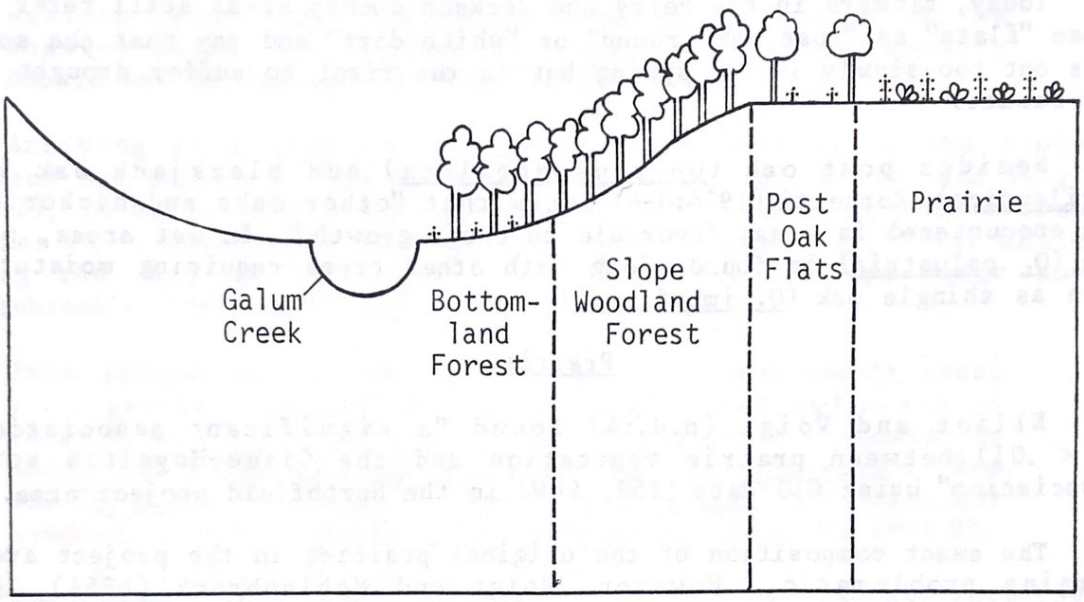



Figure 2

Ideal Environmental Cross Section
Upper Galum Creek Locality

## CULTURAL CONTEXT

### Prehistoric Overview

#### Introduction

Archaeological investigations in southern Illinois began in the late 1800s, conducted both by local amateurs and professionals. As in other areas of Illinois and the Midwest, early attention was focused on the obvious sites such as the Cahokia Mounds complex near East St. Louis, less spectacular mound groups in major drainages, and stone forts in the Shawnee Hills.

The American Bottom (Map 4:D) attracted much of this early historical and archaeological attention. The earliest reported excavations were at Cahokia, conducted by McAdams (1881), a local archaeologist. The Cahokia site also drew the attention of some of the earliest professional archaeological surveys in the area, conducted by the Bureau of Ethnology (Thomas 1894) and the Smithsonian Institution (Bushnell 1922).

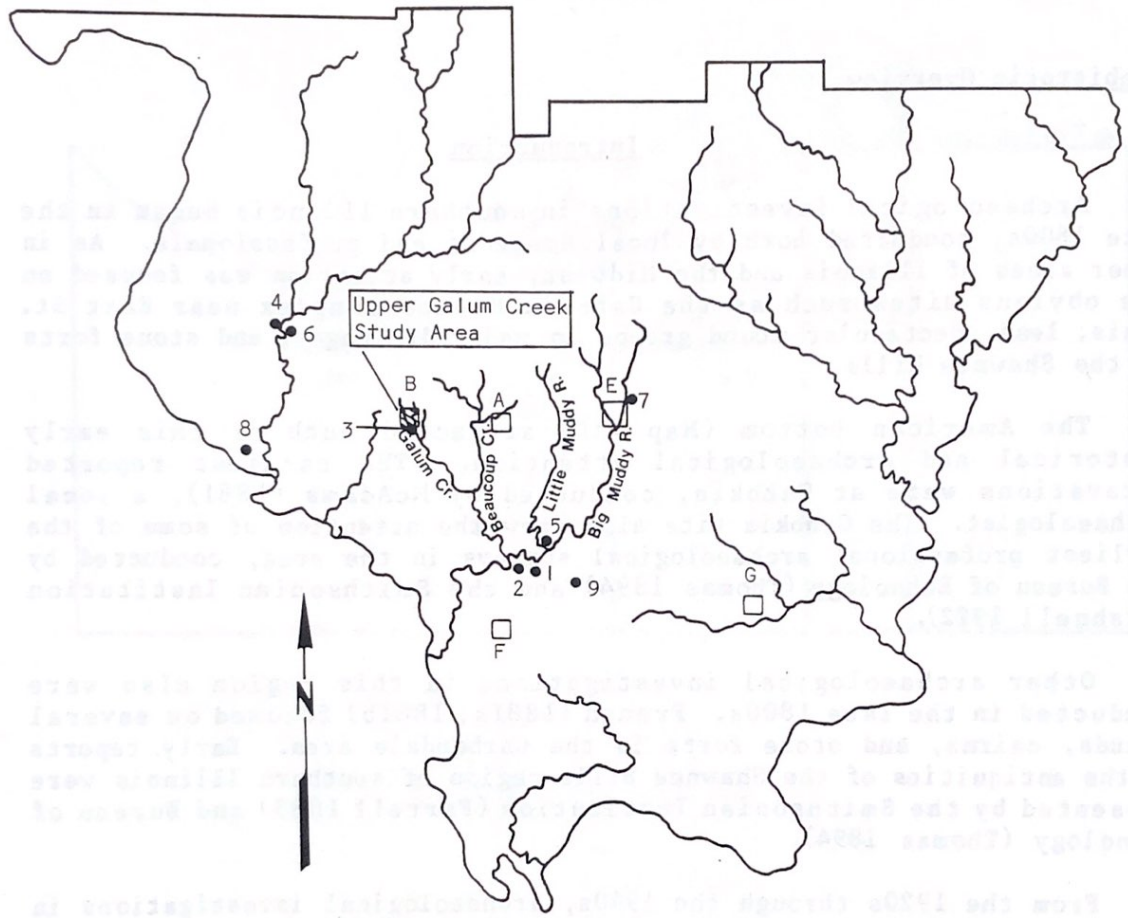
Other archaeological investigations in this region also were conducted in the late 1800s. French (1881a, 1881b) focused on several mounds, cairns, and stone forts in the Carbondale area. Early reports on the antiquities of the Shawnee Hills region of southern Illinois were presented by the Smithsonian Institution (Farrell 1883) and Bureau of Ethnology (Thomas 1894).

From the 1920s through the 1940s, archaeological investigations in the Cahokia area were conducted by various agencies including the University of Illinois (Leighton 1928; Moorehead 1922, 1923, 1928) and the Illinois State Museum (Crook 1922). Much of this work was focused on the Powell Mound group and provided the early interpretive efforts based on the Old Village and Trappist ceramic phases outlined by Griffin (1949). The University of Chicago (Rinaldo 1937), the Milwaukee Public Museum, and serious local amateurs (e.g., Titterington 1935, 1938, 1942) also participated in these early efforts. The work of these amateurs was augmented by investigations sponsored by the Works Progress Administration (Fowler 1969:9). Much of this early work was directed towards mound groups.

The first university-organized investigations in southern Illinois, outside of the American Bottom, were fielded by the University of Chicago in 1934. Controlled excavations at the Kincaid site, located south of the Shawnee Hills on the Ohio River, identified two Woodland

MAP 4

Northfield, Upper Galum Creek
Archaeological Areas and Archaeological Sites
Discussed in This Report




□ Archaeological Areas
- A - White Walnut Creek (Deep Strip #3)
- B - Galum Creek (Northfield)
- C - Carlyle Lake
- D - American Bottom
- E - Rend Lake
- F - Cedar Creek
- G - Carrier Mills

● Archaeological Sites
- 1 - Dillinger
- 2 - Raymond
- 3 - Burning Star
- 4 - Marty Coolidge
- 5 - Consol
- 6 - Emge
- 7 - Fry #1
- 8 - Modoc
- 9 - Sugar Camp Hill

0 50
Miles

foci, the Baumer focus and Lewis focus, which were overlain by a Mississippian occupation at the site (Cole 1951). Four years later, Maxwell began salvage excavations on sites in the Carbondale area which were to be destroyed by the development of the Crab Orchard Reservoir. Based primarily on the ceramic variation observed in this area, Maxwell (1951) established three Woodland cultures: Crab Orchard, Raymond, and Dillinger. The early research of Cole (1951) and Maxwell (1951) has served as a descriptive and chronological framework for more recent archaeological investigations in southern Illinois. One previous investigation (McNerney 1974) south of Jamestown along Galum Creek provided some background information for the immediate project area.

As a result of these investigations in Illinois and elswhere, archaeologists have developed a broad cultural/historical classificatory scheme with which to organize and describe the prehistory of the midwestern and eastern United States. The cultural periods, beginning with man's arrival in the New World, are: Paleo-Indian, Early Archaic, Middle Archaic, Late Archaic, Early Woodland, Middle Woodland, Late Woodland, and Mississippian (Figure 3). These periods are established on the basis of cultural traits identified through archaeological research and are not to be confused with the historic tribal groups which were encountered by the first Europeans to arrive in the New World.

This long prehistoric period can be characterized by an increase in cultural complexity, beginning with small hunting and gathering societies which evolved into more complex societies. Subsistence activities began with the collecting of wild plant and animal foods and culminated with the increased reliance on the three major New World domesticates -- corn, beans, and squash. Increases in human population and trends toward urbanization are evident, reaching their highest levels of social complexity during the Mississippian period.

## Paleo-Indian Period (15,000-8000 B.C.)

The Paleo-Indian period is best known from the western United States where numerous archaeological sites have produced cultural material in association with a late Pleistocene fauna. These are the well-known Clovis and Folsom cultures associated with extinct mammoth and bison, respectively.

Paleo-Indian peoples inhabited an environment undergoing dramatic changes as a result of the retreating glaciers (Haynes 1980:119). Although they are often referred to as big-game hunters because of the association of their hunting tools with now extinct megafauna, recent reconsiderations of Paleo-Indian subsistence patterns deemphasize the picture of sole reliance on post-Pleistocene megafauna as presented in earlier reconstructions. These large "protein packages" were only a minimal part of their total diet; the major portion probably was comprised of modern-day fauna (e.g., caribou, elk, deer) and plant foods (Ford 1974; Griffin 1967).

| | Years | Cultural Period |
|---|---|---|
| HISTORIC | Present | Agricultural/Industrial |
| | A.D. 1900 | Early Agricultural |
| | A.D. 1850 | Pioneer |
| | A.D. 1780 | Colonial/Frontier |
| | A.D. 1700 | Explorer |
| | A.D. 1673 | Protohistoric Period |
| PREHISTORIC | A.D. 1500 | Mississippian |
| | A.D. 900 | Late Woodland |
| | A.D. 400 | Middle Woodland |
| | 400 B.C. | Early Woodland |
| | 1000 B.C. | Late Archaic |
| | 3000 B.C. | Middle Archaic |
| | 6000 B.C. | Early Archaic |
| | 8000 B.C. | Paleo-Indian |
| | 15,000 B.C. | |

Figure 3. Southern Illinois Cultural Chronology

Paleo-Indians most likely moved in small bands over a relatively large area and with undoubtedly low population densities (Ford 1974:388). Haynes (1980:119) depicts Clovis peoples as nomadic foragers exploiting mammoth and bison, yet relying heavily on locally available vegetation as a dietary source. Recent evidence from Kimmswick, Missouri (Graham et al. 1981), presents a picture of a varied subsistence base for Clovis culture, utilizing mammals ranging in size and type from squirrels to mastodons. As for mobility, recent studies of chert exploitation patterns (Gramly 1980; Haynes 1980:118) indicate that Paleo-Indian groups were far ranging, exploiting multiple source localities, over hundreds of kilometers. In addition, ongoing research at Kimmswick, Missouri (Graham 1979), promises to shed new light on some of the earliest cultures utilizing this portion of the New World.

Comparatively little is known about the Paleo-Indian tradition in the eastern United States. Fluted and lanceolate projectile points (e.g., Clovis, Quad, Cumberland, and Agate Basin projectile points) are the most diagnostic remnants of Paleo-Indians. Recently, fluted projectile points were found in direct association with mastodon remains near Kimmswick, Missouri (Graham 1979). This discovery is the only direct association of Paleo-Indian tools with extinct Pleistocene fauna in the Midwest. In southern Illinois, Denny (1972:161) reports three sites within the Big Muddy River basin which contain material of Paleo-Indian affinity. Williams and Woods (1977) reported five Paleo-Indian components located on first and second order intermittent streams in the extreme uplands of the Kaskaskia River drainage system. One of these sites, R-392, is located just north of the present study area. Recent field work in the St. Marys River drainage to the west of Galum Creek has produced portions of two Agate Basin projectile points (Barr et al. 1982:164). The occurrence of materials from the Agate Basin complex, a high plains cultural complex dating from ca. 8500-8000 B.C. (Irwin-Williams et al. 1973:47; Willey 1966:46-47), is infrequent but not uncommon in Illinois. Since recent investigations of prehistoric chert exploitation patterns by Gramly (1980) indicate that Paleo-Indian groups traveled great distances, it would appear that Illinois may be at the fringe of distribution of Agate Basin materials.

### Dalton Period (ca. 8600-ca. 7000 B.C.)

The Dalton phase represents a transition from the late Paleo-Indian period to the Archaic, the nature of which is reflected in both subsistence and climatological change. Dates for Dalton occupations are not firm and are the subject of recent debate. The chronological placement of Dalton generally has been derived from cultural deposits exhibiting relative stratigraphic placement that is post Paleo-Indian and either prior to or contemporaneous with the earliest Archaic complexes. Suggested dates generally range from 8000-7000 B.C. (Chapman 1975:96) although others, from Perino (1958:18) to Stoltman (1978), cite dates between 8000-6000 B.C. Goodyear (1982), in a critical review of Dalton literature, posits a shorter and earlier span of 8600-7900 B.C. based upon firm radiocarbon dates from Rodgers Rock Shelter in Missouri.

While there is disagreement on the Dalton complex temporal placement, the transitional nature of Dalton technology is agreed upon more widely. It has been noted repeatedly that the Dalton lithic industry and late Paleo-Indian assemblages "share a common blade and flake industry" (Goodyear 1982:384).

Paleo environmental studies also support the transitional nature of the Dalton complex. Ecologically, the Dalton period represents a change from oak-hickory forest to prairie encroachment in many parts of Illinois (King 1981). Dalton tool kits discussed by Chapman (1975:96) reflect exploitation of a more varied subsistence base, representing an adaption to multiple resource exploitation during the forest to forest/prairie transition. Dalton culture and technology viewed in the context of the ecological transition during the Pleistocene-Holocene boundary by Chapman (1975:96) and Goodyear (1982) suggest a settlement shift from the nomadic hunter lifestyle of Paleo-Indian to a seminomadic hunter-forager economy.

Dalton period components in southern Illinois have been defined by the presence of Dalton projectile points and tools in the collections from various sites. Dalton type blades and points were recovered in the lowest levels at the Modoc Rock Shelter (Map 4, site 8) near Prairie du Rocher (Fowler 1959:37) at the edge of the Mississippi River floodplain. Dalton points also have been recovered from upland sites near the study area from the Marys and Big Muddy River drainages (Barr et al. 1982; Van Hoy 1980).

## Early Archaic Period (8000-6000 B.C.)

Ten thousand years ago, as the climate continued to warm, the forests of the eastern United States began to reach their modern form as broadleaf deciduous species rapidly replaced coniferous forms. Ecologically, the Early Archaic period is still a period of transition. The mesic deciduous forests that replaced the boreal spruce forests during the Late Glacial gave way to predominantly oak-hickory forests (King 1981) such as those found in the Illinois Ozark Plateau. Towards the end of the Early Archaic (ca. 6500 B.C.), increasing aridity signalled the beginning of the formation of the present-day Prairie Peninsula during the hypsithermal interval (cf. King and Allen 1977). During the Early Archaic, Illinois vegetation and animal life assumed its present configuration (Griffin 1968:130).

Important information concerning Archaic groups in southern Illinois was obtained through excavations at the Modoc Rock Shelter located at the bluff line adjacent to the Mississippi River floodplain 2 mi north of the Village of Modoc in Randolph County, Illinois (Map 4, site 8). This rock shelter site, first reported by Fowler et al. (1956), consists of cultural deposits over 30 ft deep dating between 8000 B.C. and 2000 B.C. Of particular importance were data recovered on Early Archaic deposits from the lowest levels at Modoc. Important ecological data also were recovered from excavations at this stratified site (Fowler 1959). Data from this site, other excavations in southern Illinois and elsewhere, coupled with recent paleo-ecological data,

present a picture of continuing adaptation by human groups to the early Holocene environment.

The Early Archaic can be regarded as a period of initial adaptation and change to this environment. As new subsistence items became available and abundant, they were added to procurement strategies. Acorns, various types of nuts, fish, and mussels all became more abundant with the changing conditions. This broadening of the subsistence base and successful adaptations to varied environments is reflected in the establishment of archaeologically distinguishable regional traditions.

Investigations by Williams and Woods (1977) served to locate a previously unknown chert source and knapping station of Early Archaic affiliation on an intermittent tributary of the Kaskaskia drainage system near Waterloo, Illinois, in Monroe County. Hardin and Kirk projectile point types were found in association with numerous oval preforms made from chert nodules obtainable in the nearby Gerhardt Creek (Williams and Woods 1977:26-27). The Hardin projectile point style is a good indicator for the Early Archaic period. While older references (e.g., Bell 1960:62) have sometimes treated the Kirk complex as extending into the Middle Archaic, a recent overview of Dalton and Early Archaic complexes (Goodyear 1982) notes that Kirk points have been dated firmly via C-14 dating: St. Albans, West Virginia, 9850 $\pm$ 500 B.P.; Thunderbird site, Virginia, 9900 $\pm$ 340 B.P.; and several dates from lower Little Tennessee River at ca. 9500-9000 B.P.

Van Hoy (1980:61) discusses large Early Archaic sites with low density lithic concentrations which are located along the upland divide between the Marys River and Big Muddy River drainage basins. Projectile point styles present on these sites include Thebes and Hardin. It is suggested that these Early Archaic sites served as base camps from which the vast resources of both drainages were readily accessible. Additional Early Archaic sites have been reported for the Little Muddy River to the southeast (Powell et al. 1982b). Denny (1972) reported 13 Early Archaic components from the Big Muddy basin.

## Middle Archaic Period (6000-3000 B.C.)

By 6000 B.C., the environment was essentially modern, and the Middle Archaic can be described as continuing a trend toward broad spectrum resource utilization and toward more efficient adaptation to local environments (Caldwell 1958; Fowler 1959). This is evidenced in Illinois and the eastern United States by a diversification of tool kits, noticeably the appearance of full grooved axes (Griffin 1955). Other new artifact types include stone pendants and bannerstones and the emergence of a well-developed bone tool industry including various awls, antler projectile points, atlatls, bone fishhooks and beads, tortoise shell cups, and necklaces of mammal teeth (Griffin 1968:133). Population densities gradually increased but still remained relatively low. Middle Archaic sites are identified by the presence of side-notched points of the Cairo and Modoc varieties (Denny 1972:162). Denny reports 29 Middle Archaic components for the Big Muddy River basin. Much

of our knowledge of the Early and Middle Archaic in southern Illinois comes from the Modoc Rock Shelter (Fowler 1959).

Recent work near Carrier Mills (Map 4:G) in Saline County (Jefferies and Butler 1982:1467) by the Center for Archaeological Investigations at Southern Illinois University at Carbondale has revealed a major Middle Archaic occupation dating from ca. 4000-3000 B.C. Abundant human skeletal remains, deep midden accumulation, large quantities of floral and faunal remains, and the diverse tool kit indicate a major base camp. Excavation at the Sump Site on the Kaskaskia River (Binford 1962) revealed three rock concentrations found in association with a Middle Archaic Faulkner side-notched projectile point, a fully grooved ax, and minor chipping debris (Rackerby 1968:77).

Available evidence indicates only limited use of upland zones during the Middle Archaic period. Light Middle Archaic components have been identified in the Marys River drainage (Barr et al. 1982). There were no definite Middle Archaic sites reported for the Marys River drainage by the FAP-410 project (Williams and Woods 1977) or the ICGG project (Van Hoy 1980).

## Late Archaic Period (3000-1000 B.C.)

The Late Archaic period is marked by a considerable growth in population, distinct regional adaptations, and interregional exchange systems. A more sedentary way of life is indicated, although seasonal movements were still necessary. Because of larger population densities, these movements became more restricted spatially. Archaeological data point to an expanded resource base with a marked increase in the exploitation of plant resources. This broad spectrum resource utilization is thought to be an important preadaptation to the development of agriculture in eastern North America (J. Brown 1977:168; Winters 1974:xiii).

In the southern Illinois area, Late Archaic sites are identified by the presence of Trimble, Merom, Saratoga, and Cypress points. Late Archaic occupations in the area are known primarily from reports by Fowler (1959) and Winters (1969). Winters' work on the Late Archaic Riverton culture (1967, 1969) consisted of a functional approach designed to retrieve subsistence and settlement information from Late Archaic sites in the Wabash drainage. It has served as a model for other researchers interested in the cultural dynamics of subsistence-settlement systems.

Fifty five percent of all the recorded sites in the Carlyle area on the Kaskaskia River had Archaic components. However, with the exception of the Sump site mentioned previously, excavation failed to isolate information on the components from the later Woodland and Mississippian occupations at the sites. The Late Archaic was represented on three sites in the ICGG survey area between the Marys and Big Muddy drainages. These components were defined on the basis of one projectile point from this period on each site. Late Archaic sites have been reported

previously for the Marys River drainage (Barr et al. 1982; Williams and Woods 1977).

## Early Woodland Period (1000-400 B.C.)

The appearance of pottery generally is considered the marker for the Woodland period. Also with the advent of Early Woodland comes the first evidence for agriculture. Cultigens included squash and various indigenous seedy plants. However, these were only a minimal part of the total diet, and Early Woodland populations continued an essentially Late Archaic way of life (Ford 1974:401). Very little is known about the Early Woodland period in southern Illinois. Sites are identified by the presence of Fayette thick, Marion thick, undecorated Crab Orchard fabric marked, and Sugar Hill cordmarked ceramic types (McNerney 1975:407).

Early Woodland components are recognized at sites in the Cedar Creek area of the Shawnee Hills (McNerney 1975), possibly at the Marty Coolidge site on the Kaskaskia (Kuttruff 1972:42), at the Sugar Camp Hill site on Crab Orchard Creek (Maxwell 1951) (Map 4, site 9), and in the Carlyle Reservoir (Rackerby 1968:78-79). Melbye (1964a, 1964b) excavated two upland sites with Early Woodland components within the I-57 right of way. In most cases, the Early Woodland component is mixed with earlier and later components, and internal site features or spatially definable site areas are usually difficult to identify. Along the Kaskaskia River, Marion thick sherds, best known from the Illinois River Valley, are found in small numbers (Rackerby 1968:79). Projectile points of this period include the types Kramer, Adena-like, and Cypress.

Two sites located on an intermittent tributary of the Little Muddy River and one site on an intermittent tributary of Beaucoup Creek exhibit Late Archaic/Early Woodland components (Powell et al. 1981, 1982b).

Three sites with Late Archaic/Early Woodland components are located near the headwaters of the Little Marys River (Powell et al. 1982b). One of these sites, 21C4-180, is of particular interest to the present research. This site appears to be an Early Woodland knapping station geared to the reduction of the recently defined Blair chert which outcrops in the stream adjacent to the site.

## Middle Woodland Period (400 B.C.-A.D. 400)

The Southern Till Plain is a meeting ground between two previous and well-known Middle Woodland cultural complexes, the Havana tradition of the Illinois River Valley and the Crab Orchard tradition to the south (Maxwell 1951). Any synthesis of Middle Woodland prehistory in Southern Illinois requires an understanding of the relationship of these two complexes (Struever 1964).

Early excavations on Middle Woodland period sites in southern Illinois were conducted by Thomas (1894) at the Vogel site in Jackson

County. However, his work concentrated on mound groups as did the latter work of Hoffman (1960) and Maxwell (1951).

Maxwell (1951) defined the Crab Orchard culture from his work at the Sugar Camp Hill site and other sites in the Crab Orchard basin. The Crab Orchard occupation of the Shawnee Hills has been reported by McNerney (1975) (Map 4:F) and Cremin (1975, 1978). The proposed settlement pattern is one in which seasonal movements into the area were made for the procurement of chert and the exploitation of seasonal plant food resources (Cremin 1975:403). Little is known about the Crab Orchard tradition within the till plains region with the exception of Denny's work in the Rend Lake area (Denny 1970). He interprets Crab Orchard sites in this area as representing small, seasonal plant food collecting occupations (Denny 1970:70). More research is needed in the till plains region in order to determine the nature of relationships between Crab Orchard populations of this area and those of the Shawnee Hills.

The first major archaeological investigations of Middle Woodland sites in the Big Muddy drainage resulted from the Rend Lake Salvage Project (Map 4:E) conducted between 1963-1968 (Bowles 1963; Chadwick 1963; Denny 1966, 1970; Orlandini 1966). In 1970, Denny reported on extensive excavations at the Brown Swamp site and Big Bean site providing a summary of the archaeology completed to date at Rend Lake. Subsequently, Hall and Elliston (1972) conducted excavations on Fry #1 (Map 4, site 7), a small upland Middle Woodland site, while Denny's (1972) dissertation synthesized previous research, producing an extensive study of the prehistoric utilization of the Big Muddy drainage.

Denny (1972:172, 177) divides the Crab Orchard tradition into three phases: Early, Middle, and Late. The Early phase is marked by the presence of Sugar Hill cordmarked and Crab Orchard fabric-marked ceramics, while the Middle phase finds Crab Orchard cordmarked and Crab Orchard fabric-marked with nodes as the dominant types. The Fry #1 site (Hall and Elliston 1972) on the Big Muddy and the Crab Orchard component at the Consol site (Map 4, site 5) on the Little Muddy are representative of the Early and Middle Crab Orchard phases. Thin, well fired, Crab Orchard fabric marked sherds with exterior rim nodes are present also at the Consol site and suggest a Late Crab Orchard phase (McNerney 1981:personal communication). The introduction of Hopewellian ceramic motifs in the Middle and Late phases evidences participation in this widespread interaction sphere. Diagnostic lithic materials range from points with long, narrow, straight stems (Maxwell 1951:269-270) to varieties of well-made, corner-notched Snyders points and the well-known Cobden blanks (McNerney 1975:354).

In the Kaskaskia Valley, both Havana and Crab Orchard ceramic traits occur. The frequency of Crab Orchard sherds is low in the Carlyle Reservoir area (Rackerby 1968:81), tending to be more frequent further south at the Marty Coolidge site (Kuttruff 1972:50).

During the Middle Woodland period, local and regional cultural complexes like Havana and Crab Orchard were linked by the set of

socioreligious and economic traits known as Hopewell. This cultural manifestation is characterized by regional interaction, burial in mounds, and a variety of distinctive ceramic motifs. Trade in exotic goods, both raw material and finished items, was extensive. In southern Illinois, the Twenhafel mound and village site, located in the Mississippi River floodplain near Gorham, is representative of a Hopewellian religious and socioeconomic center. The North site is a major Middle Woodland mound group located in the Kaskaskia drainage, 7 mi downstream from the Carlyle Reservoir dam (Rackerby 1968:83). Similar centers occurred throughout the midwestern, eastern, and southeastern United States and served as focal points for trade, elaborate ceremonialism, and social interaction approximately 2,000 years ago.

One Crab Orchard component has been identified near Beaucoup Creek (Powell et al. 1982a) and one in the Little Marys River area (Powell et al. 1982b). All Middle Woodland components were assigned on the presence of diagnostic projectile point types or the occurrence of bifacial oval blanks. Middle Woodland ceramics were not recovered from these sites.

Middle Woodland components were not identified by either the IDOT survey near the headwaters of the Marys River (Williams and Woods 1977) or the ICGG Pipeline survey of the divide between the Marys and Big Muddy drainages (Van Hoy 1980). One Crab Orchard fabric-marked sherd, however, was found on a predominantly Late Woodland site (24A2-24) located near the bluffs overlooking the Mississippi River floodplain at the headwaters of Degognia Creek, just south of the Marys River system (Van Hoy 1980). Present evidence indicates that during Middle Woodland, these upper reaches of the smaller drainage systems were not extensively utilized.

## Late Woodland Period (A.D. 400-900)

The end of the Middle Woodland/Hopewell period at approximately A.D. 400 is marked by an extensive reduction in interregional trade, a decrease in the complexity of ceremonial/mortuary practices, and a replacement of certain elaborate and exotic ceramic styles with more utilitarian regional forms. Late Woodland was characterized by an intensive exploitation of local resources supplemented, toward the close of the period, by cultigens, including corn and squash (Ford 1974:403). During this time, social groups became more sedentary, and habitation sites became larger and more intensively occupied.

Late Woodland sites are identified by the presence of thin-walled, well-made, cordmarked, grit-tempered ceramic vessels. Locally, this ware is referred to as Raymond, a name derived from the type site just north of Carbondale on the Big Muddy River. Stone tools include Lowe flared base-like points and small corner-notched points.

The closing phases of the Late Woodland period in this region are represented by the Dillinger site (Maxwell 1951:230-231) just north of Carbondale (Map 4, site 1). Cordmarked ceramic vessels became more globular in shape, often exhibited folded rims, and some smoothing on

exterior surfaces. Projectile points are small, triangular, often side notched, and may now be referred to as arrow points. Another distinctive trait of this period, as well as the earlier Late Woodland phases, is the manufacture and use of antler projectile points (Maxwell 1951:231). Late Woodland populations continued to grow, and the evolutionary momentum eventually lead to the appearance of large regional centers, long distance trade, and a return to a religious and socioeconomic interaction throughout the midwestern and eastern United States during the following Mississippian period.

Denny (1972:185) notes a relative lack of Late Woodland sites in the till plains region of southern Illinois, but this may be the result of sampling bias. Several Late Woodland sites were reported for the Galum Creek drainage (Pulcher 1974a). Excavations at the Burning Star site (Pulcher 1974b) on Galum Creek revealed an intensive early Late Woodland occupation including human interments.

Late Woodland sites are well documented in the Kaskaskia drainage at Hatchery West (Binford et al. 1966), Emge (Stadler 1973), and the Texas site (Morrell 1965). Ceramic styles at the Late Woodland sites in the Carlyle area more closely resemble southern Illinois wares, e.g., Lewis and Raymond, than the northern Illinois wares, e.g., Weaver and Jersey Bluff (Fowler 1960:4b). Excavations at the Knoebel site, located on a branch of the Kaskaskia in St. Clair County east of the Carlyle area, identified a Late Bluff Woodland component (Bareis 1970). This site represents the most eastward intrusion into the Kaskaskia drainage of a very late Late Woodland culture which, in the American Bottom, is transitional to Early Mississippian.

Recent archaeological investigations identified two Late Woodland components on intermittent tributaries of Beaucoup Creek (Powell et al. 1981) and one on an intermittent tributary of the Little Muddy River (Powell et al. 1982b). These sites consisted of light scatters of lithic debitage and a few grit-tempered ceramic sherds.

An archaeological survey at the headwaters of the Little Muddy River located one small site of Late Woodland affiliation (Powell et al. 1982a). A survey of the upland divide between the Marys and Big Muddy River drainages identified three Late Woodland components (Van Hoy 1980). Late Woodland components at all three sites were identified on the basis of a single grit-tempered sherd. The FAP-410 (Williams and Woods 1977) project located two Late Woodland sites in the Marys River drainage system. Additional investigations near the confluence of the St. Marys and Mississippi rivers revealed two bluff-top Late Woodland sites (Hutto and Butler 1981).

### Mississippian Period (A.D. 900-ca. A.D. 1500)

Mississippian culture represents the culmination of social, economic, political, and technological trends begun in the Late Woodland period. The period is marked by an increased dependency upon agriculture as a subsistence base and increased social stratification and complexity. Settlement patterns are characterized by large regional

population centers surrounded by a radiating network of agricultural and special purpose sites. The large regional centers most often contained flat-topped mounds, plazas, and fortifications and are interpreted as functioning in both ceremonial and economic activities.

Artifacts indicative of Mississippian material culture include shell-tempered pottery, finely-made Madison and Cahokia projectile points, and farming implements, e.g., hoes and hoe chips. Usually, the presence on a site of hoe chips and ceramic wares is indicative of agricultural activities; and, generally, small artifact scatters including such materials are interpreted as farmsteads (Harn 1971:36).

Cahokia, near East St. Louis, was the site of the most spectacular prehistoric center to develop in North America. The social, political, and economic dominance of Cahokia is most prevalent during Early Mississippian times. This dominance tends to dissappear by the beginning of the Late Mississippian period, ca. A.D. 1300 (Harn 1980:22). In all, the Cahokia site covers 5 $mi^2$ of the Mississippi River floodplain, containing approximately 120 mounds, the largest of which (Monks Mound) stands 100 ft high (Fowler 1974).

Following the decline of Cahokia, Late Mississippian culture represents a period of regional differentiation (ca. A.D. 1300-1600). The manufacture of characteristic Mississippian artifacts persists, and mound construction, although of diminished importance, continues. Temporally, the Late Mississippian cultures overlap with what Fowler and Hall (1975:7-9) refer to as the Sand Prairie phase (A.D. 1250-A.D. 1500). Willey (1966:309-310), among others, believes that the terminal prehistoric Fort Ancient and protohistoric Oneota cultures have their genesis in the Late Mississippian culture.

Other major Mississippian mound groups and village sites include the Common Field site, located in the American Bottom across the Mississippi River from the mouth of the Kaskaskia, and the Kincaid site on the Ohio River in extreme southern Illinois (Cole 1951).

In the upper Kaskaskia River Valley, Mississippian occupations do not seem to be associated directly to or have ancillary relationships with the Cahokia center (Rackerby 1968:88-92). Sites appear to be small farmsteads, occupied year-round as part of a dispersed settlement system. Subsistence pursuits include corn agriculture, supplemented by hunting and collecting. Excavations at the Toothsome site revealed a small year-round farmstead (Binford 1962:4-55). In addition, excavations at Galley Pond recovered an extensive mortuary structure including stone box burials (Binford 1962:58-107). In general, Mississippian settlement in the Kaskaskia River area indicates the utilization of secondary perennial streams for agricultural purposes throughout the cultural developments evident at Cahokia.

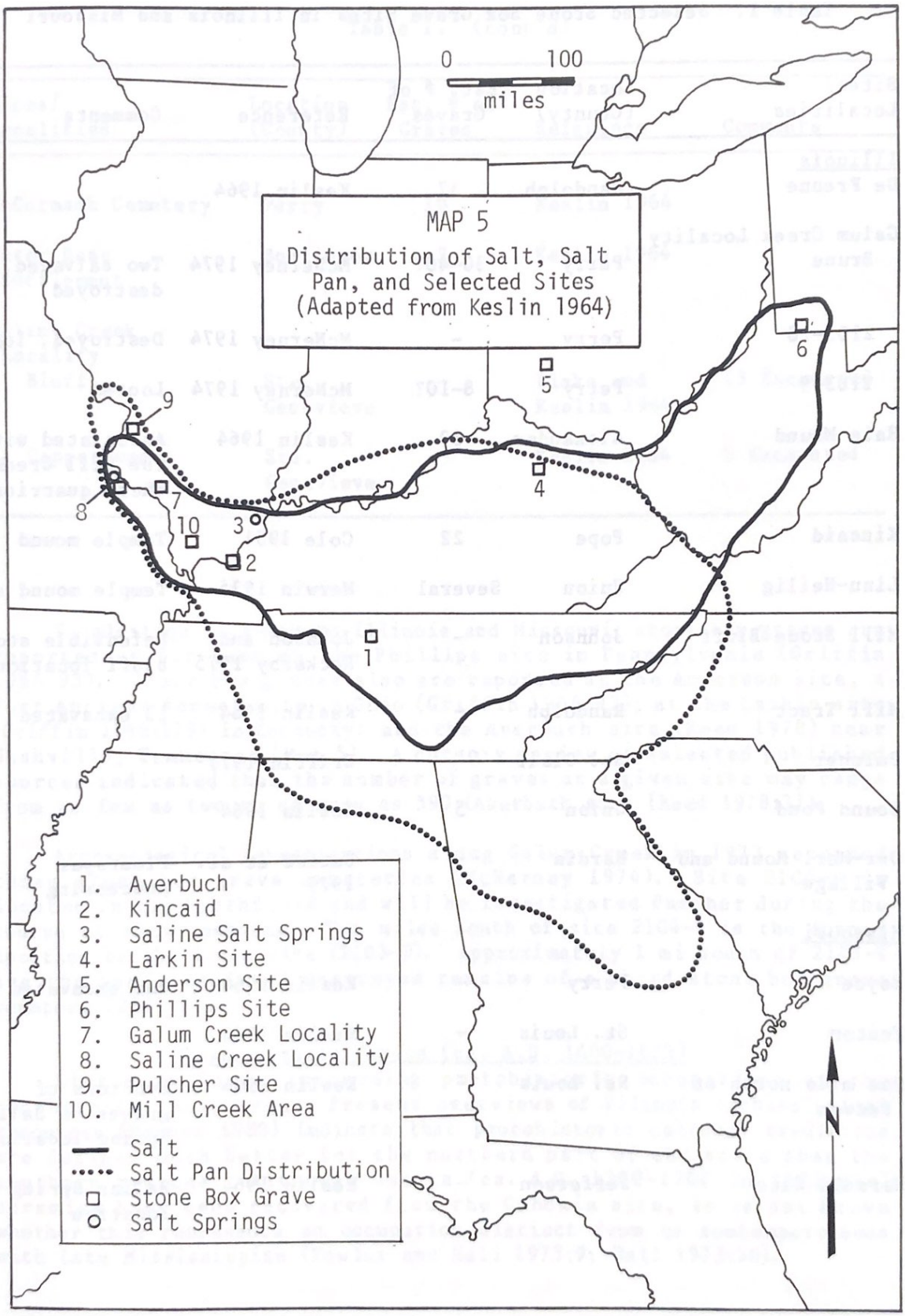
McNerney (1974) recovered evidence of Mississippian habitation and stone box graves at the Brune site (21D3-9) on Galum Creek. Ceramics at this site suggested a relationship to the terminal Sand Prairie phase at Cahokia. At the Consol site (Map 4, site 5) on the Little Muddy River,

three Mississippian houses were identified, one of which yielded a radiocarbon date of A.D. 1210 (McNerney 1981:personal communication).

Only one Mississippian site has been recorded in the Marys River vicinity. This is a small, low artifact density site (24A2-226) located near the headwaters of an intermittent stream which drains directly into the Mississippi River floodplain (Van Hoy 1980). Although neither the Burning Star #3 survey (Powell et al. 1982a) nor the FAP-410 project recorded any Mississippian components in the Marys River drainage, this may be the product of surveys focused on the uplands rather than a real absence of Mississippian sites in this restricted drainage system.

Interment in stone box graves is a well-known Mississippian period mortuary practice. Stone slabs are placed on edge in a rectangular fashion (coffin-like). Often, the bottom is paved with stone or large vessel fragments. The body usually is placed on its back in an extended position, and the box is then covered with stone slabs. In southern Illinois, the trait was reported early by Cyrus Thomas (1894) along the Mississippi River in Union, Jackson, and Randolph counties. Keslin (1964) conducted professional excavations at stone box grave and salt processing sites in the Saline Creek locality of Ste. Genevieve County, Missouri, opposite Chester, Illinois (Map 5). Keslin (1964:148-167) noted the distribution of salt springs, salt pan ceramic vessels, and stone box graves in the east-central United States and pointed out the possible importance of salt distribution and the diffusion of Mississippian cultural traits (Map 5).

Well-known sites in southern Illinois which have associated stone box grave cemeteries include Millstone Bluff (Johnson and Rackerby 1975) in Pope County, Saline Springs (Butler et al. 1979:66) in Gallatin County, Orr-Herl Mound and Village in Hardin County, and the Hale Mound in Union County. Millstone Bluff is a spectacular defensible bluff top located deep in the Shawnee Hills. Saline Springs is the intensively utilized prehistoric and historic salt spring near Equality. The Orr-Herl site overlooks the Ohio River near Rosiclare. Of interest to this discussion is the apparent fluorspar processing at the site (Butler et al. 1979:5). Hale Mound is a stone box cemetery and ceremonial center associated with the Mill Creek chert quarries. With the exception of Millstone Bluff, three of these sites provide evidence for stone box grave mortuary practices associated with important Mississippian period economic activities -- the procurement, processing, and probable distribution of salt, fluorspar, and Mill Creek hoes. These sites are only a few of the reported stone box cemeteries in southern Illinois; there are many others (Table 1) in extreme southern Illinois. The Kincaid and Linn-Heilig mound and village sites are two major Mississippian towns with associated stone box graves. Along the Misssissippi River in Missouri, between Cape Girardeau and St. Louis, numerous stone box grave sites are reported. Unfortunately, most have been destroyed or vandalized, and professional archaeological research has been conducted at only a few of these sites.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MAP 5
Distribution of Salt, Salt Pan, and Selected Sites (Adapted from Keslin 1964)
1. Averbuch
2. Kincaid
3. Saline Salt Springs
4. Larkin Site
5. Anderson Site
6. Phillips Site
7. Galum Creek Locality
8. Saline Creek Locality
9. Pulcher Site
10. Mill Creek Area
Salt
Salt Pan Distribution
Stone Box Grave
Salt Springs
N

Table 1. Selected Stone Box Grave Sites in Illinois and Missouri

| Sites/ Localities | Location (County) | Est. # of Graves | Reference | Comments |
|---|---|---|---|---|
| Illinois | | | | |
| De Frenne | Randolph | 37 | Keslin 1964 | |
| Galum Creek Locality Brune | Perry | 30-40? | McNerney 1974 | Two salvaged, destroyed |
| 21D3-10 | Perry | - | McNerney 1974 | Destroyed, looted |
| 21D3-9 | Perry | 8-10? | McNerney 1974 | Looted |
| Hale Mound | Alexander | 39 | Keslin 1964 | Associated with the Mill Creek chert quarries |
| Kincaid | Pope | 22 | Cole 1951 | Temple mound |
| Linn-Heilig | Union | Several | Merwin 1935 | Temple mound site |
| Mill Stone Bluff | Johnson | - | Johnson and Rackerby 1975 | Defensible stone bluff location |
| Mill Tract | Randolph | - | Keslin 1964 | 13 excavated |
| Pulcher | St. Clair | - | Griffin 1977 | |
| Round Pond | Union | 5 | Keslin 1964 | |
| Orr-Herl Mound and Village | Hardin | - | Butler et al. 1979 | Fluorspar processing |
| Missouri | | | | |
| Boyce | Perry | - | Keslin 1964 | One excavated |
| Fenton | St. Louis | - | Keslin 1964 | |
| One mile north of Fenton | St. Louis | - | Keslin 1964 | Two rows of graves; a Saline Spring location |
| Herrell Site | Jefferson | - | Keslin 1964 | Saline Spring location |

Table 1. (cont'd)

| Sites/ Localities | Location (County) | Est. # of Graves | Reference | Comments |
|---|---|---|---|---|
| McCormack Cemetery | Perry | 10 | Keslin 1964 | |
| Peter Bess Settlement | Bollinger | 2 | Keslin 1964 | |
| Saline Creek Locality | | | | |
| Bluff | Ste. Genevieve | - | Blake and Keslin 1964 | 13 Excavated |
| Copperhead | Ste. Genevieve | - | Keslin 1964 | 5 Excavated |

In addition to southern Illinois and Missouri, stone box graves are reported as far east as the Phillips site in Pennsylvania (Griffin 1966:93). Stone box graves also are reported at the Anderson site, a Fort Ancient Aspect site in Ohio (Griffin 1966:93); at the Larkin site (Griffin 1966:179) in Kentucky; and the Averbuch site (Reed 1978) near Nashville, Tennessee (Map 5). A cursory review of selected published sources indicated that the number of graves at a given site may range from as few as two to as many as 590 (Averbuch site [Reed 1978:3]).

Archaeological investigations along Galum Creek in 1973 recorded three stone box grave cemeteries (McNerney 1974). Site 21C4-9 is located in the Northfield and will be investigated further during the course of this research. Two miles south of site 21C4-9 is the former location of the Brune site (21D3-9). Approximately 1 mi south of 21D3-9 are the vandalized and destroyed remains of a third stone box grave cemetery (21D3-10).

Protohistoric Period (ca. A.D. 1400-1673)

Little is known concerning protohistoric occupations in the southern Illinois area. Present overviews of Illinois archaeological resources (Downer 1980) indicate that protohistoric cultural traditions are defined much better for the northern part of the state than the southern regions. Although Oneota (ca. A.D. 1380-1700 in Illinois) ceramics have been recovered from the Cahokia site, it is not known whether this represents an occupation distinct from or contemporaneous with Late Mississippian (Fowler and Hall 1975:9; Hall 1975:30).

Evidence of protohistoric occupation should eventually appear along the Illinois and Mississippi rivers at sites that began to receive the first trickle of European trade goods, probably from the northeast.

### Historic Amer-Indian Period (A.D. 1673-1832)

The beginning of the historic period in Illinois is marked by the arrival of French explorers and missionaries into the Illinois country, beginning with the Marquette and Joliet expedition in 1673. At that time, Illinois was inhabited by various Algonquian-speaking peoples, most notably the loosely-knit Illini confederacy, composed of the Cahokia, Kaskaskia, Michigamea, Peoria, Tamoroa, and perhaps as many as seven other named groups (cf. Temple 1966).

Illini settlement and subsistence patterns were characterized by the establishment of villages, limited agriculture, and extensive hunting. At the time of European contact, the Illini were under pressure from other Algonquian groups in adjacent regions, themselves responding to European colonization and expansion. As the Illini were driven west and south beginning with the Iroquois expansion in the 1660s, they took up residence at French settlements, e.g., Kaskaskia and Fort de Chartres.

Few archaeological investigations have been conducted at historic period Amer-Indian sites in Illinois. One locality, the Guebert site, is a historic Kaskaskia Indian village known through large surface collections. It was occuppied between 1719 and 1833, mostly during the French occupation of the area (Good 1972:ix, 4). Most investigations are generally in conjunction with the excavation of early French forts at or near which Illini groups took refuge from other Indian groups expanding into Illini territory.

Northern groups such as the Sauk, Fox, Kickapoo, Mascoutens, and Potawatomi began pressuring the Illini in the 1720s, forcing them out of northern and central Illinois by 1769 (Bauxar 1978; Callender 1978:677-678). These groups practiced seasonal-round subsistence patterns, spending the summers near fishing areas and winters in the woods (Maple 1912:38). These groups, in turn, were displaced by American settlers and military by the 1830s.

While Illini relations with the French settlers were relatively friendly, subsequent contact with the British and then the Americans were less than cordial. By 1832, all Illini lands in Illinois either had been sold or ceded to European-Americans. The remnant of the Illini, with little of their traditional native culture intact, settled on a reservation in eastern Kansas (Callender 1978:679).

## Historic Overview

### Introduction

Research in the Northfield study area necessitated the development of a cultural-historical framework within which to assess and evaluate

historical resources. The cultural periods which form the chronological divisions of this scheme are: Explorer, 1673-1700; Colonial/Frontier, 1700-1780; Pioneer, 1780-1850; Early Agricultural, 1850-1900; and Agricultural/Industrial, 1900-present (Figure 4). These temporal divisions are based on political, social, and technological developments in southern Illinois over the past 300 years. The primary purposes for developing this framework are to aid in evaluating historic archaeological resources for National Register of Historic Places (NRHP) significance, better organize historical research information, develop historical research problems, and integrate regional historic archaeological data. Of course, additional local, regional, and area research must be conducted to refine this scheme and to establish its utility for future research in southern Illinois.

## Explorer Period (1673-1700)

The Explorer period in Illinois began with the Marquette and Joliet expedition down the Mississippi River in 1673. Earlier, Spain, England, France, and Holland had carried out explorations in other parts of the New World and the eastern United States, but the French trip from Canada serves as a convenient marker for the beginning of the historic period in this area. Their journey also marked the first major thrust by the French into Illinois.

French interest in the area was maintained and followed by a visit by Robert Cavalier de La Salle. He reached the mouth of the Mississippi in 1682 and claimed all the land bordering it and its tributaries for France, naming the new territory Louisiana in honor of Louis XIV.

Prior to the founding of Kaskaskia, two attempts were made to establish settlements in Illinois. While making preparations to descend the Mississippi River in 1680, La Salle erected a fort on the Illinois River below Lake Peoria. The fort was named Crevecoeur and marked the first military occupation of Illinois. However, the fort was abandoned a few months later (McDonough 1883:26).

The second attempt also was made by La Salle in 1682. He built a fortification at Starved Rock named Fort St. Louis. The stronghold became a trading center as various tribes settled in the area but was abandoned around 1700 (McDonough 1883:26).

In 1699, Pierre LeMoyne, Sieur de Iberville, sailed from the mouth of the Mississippi River and built Fort Maurepas on Biloxi Bay. This marked the beginning of permanent settlement by the French on the Gulf Coast and acted as an anchor for French claims on the Gulf and the lower Mississippi Valley region. The end of the century marked the establishment of French presence in the upper and lower Mississippi Valley.

## Colonial/Frontier Period (1700-1780)

The Colonial/Frontier period is characterized by economic competition and political turmoil. Britain, France, and America

| | | |
|---|---|---|
| 1980 | | |
| 1960 | | |
| 1940 | Agricultural/ Industrial Period | World War II (1939-1945) |
| 1920 | | World War I (1914-1918) |
| 1900 | | |
| 1880 | Early Agricultural Period | |
| 1860 | | Civil War (1861-1865) |
| | | Illinois Central Railroad (1850) |
| 1840 | | |
| 1820 | Pioneer Period | Statehood (1818) |
| 1800 | | Illinois Territory (1809) |
| 1780 | | Americans Occupy Kaskaskia (1778) |
| 1760 | | British Gain Control of Illinois (1763) |
| 1740 | Colonial/ Frontier Period | |
| 1720 | | Fort de Chartes (1720) |
| 1700 | | Village of Kaskaskia (1703) |
| 1680 | Explorer Period | Fort Crevecouer (1680) |
| 1660 | | Marquette and Joliet Expedition (1673) |
| | Protohistoric Period | |

Figure 4. Historic Periods in Illinois

bartered for the furs, land, and the allegiance of diverse native American groups. In this immediate area, this period began with the founding of Kaskaskia and reached a turning point with the capture of Kaskaskia by George Rogers Clark and his small army of Americans in 1778. In 1703, Jesuit missionaries, Kaskaskia Indians, and a group of fur traders moved south from the Des Peres River and founded the village of Kaskaskia just north of the present town of Chester, Illinois (Orser and Karamanski 1977:4).

The early 1700s was also a time of French fort construction in the area, extending from the Great Lakes down the Mississippi River. In 1701, Fort Pontchartrain was constructed at Detroit followed by Fort Miami (1712?) at the present site of Fort Wayne, Indiana. Fort Ascension, later Fort Massac, was constructed near present-day Metropolis, Illinois, in 1757. On the Mississippi, Fort de Chartres had been established by Boisbriant as early as 1720 (Alvord 1920:153), and Fort Kaskaskia may have been built as early as 1734 (Orser and Karamanski 1977:14). By the mid-1770s, the French had built a line of forts from the Great Lakes to the Mississippi by way of the Ohio and its tributaries in an effort to secure the upper Ohio region from the English (Smith 1912:64-65).

French interest in the Mississippi Valley was intensified with the arrival of Pierre de Gue de Boisbriant at Mobile in 1718. He arrived with a commission that established him as commandant of the Illinois Country and Jean-Baptiste LeMoyne de Bienville as governor general of the Louisiana Territory. While the English considered their ownership of the region legal by the Charter of 1607, the French claimed the Mississippi Valley by right of discovery. In approximately 1720, Phillippe Renault, who was the director of mines for the Company of the West, sent miners and workmen out from his temporary headquarters at Fort de Chartres to search the bluffs rimming the American Bottom for precious metals (Schlarman 1929:195).

The need for better methods of civil administration became apparent with the rapid population growth from the 1720s onward. In 1721, the Mississippi Valley was divided into nine civil jurisdictions, Illinois being one of them (O'Neill 1966:128). At this time, the name "Illinois Country" was used primarily in reference to the alluvial land between the Mississippi River and the high bluffs which stretch from Chester to Alton. The early French villages of Kaskaskia and Cahokia were located in this area. Control of the Illinois Country was transferred formally from France to England at the end of the French and Indian War and the signing of the 1763 Peace of Paris. Fort de Chartres was surrendered to the British in October 1765 (Schlarman 1929:397) and renamed Fort Cavendish, which became the capital for Britain's western lands. In spite of the proclamations of George III prohibiting English citizens from settling west of the Alleghenies, many explorers, settlers, and adventurers moved through gaps in the Alleghenies into what is now West Virginia, Kentucky, and Tennessee. Increased infiltration of British settlers into formerly French-controlled territory, combined with the automatic transfer of the territory to the British king, resulted in unrest among the French and Indians living in the western lands. During

this transition period, many of the Indians, under the leadership of the Ottawa chief Pontiac, mounted a campaign against the British and attacked and captured many of their forts (Jacobs 1972:83-93).

During the Revolutionary War, control of the eastern half of the continent was wrested from the British. Coupled with the Louisiana Purchase of 1803 from France, the stage was set for first a trickle and then a flood of immigration from the East and Southeast.

## Pioneer Period (1780-1850)

By the early fall of 1778, the Virginia legislature made Illinois a county of Virginia, encompassing all the area west of the Ohio and establishing Kaskaskia as the seat of government. On December 20, 1783, Virginia ceded the Illinois Country to the United States. The Ordinance of 1787, passed by the Continental Congress, established the Ohio Territory out of all the lands northwest of the Ohio, and Marietta was made the capital. St. Clair County was formed in 1790 out of the western part of the Ohio Territory, and Randolph County was formed out of the southern part of St. Clair County in 1795 (Smith 1912:523).

On May 7, 1800, the present areas of Illinois, Indiana, Wisconsin, and Michigan were divided from the remainder of the Northwest Territory and became known as the Indiana Territory. The capital was at Vincennes, and William Henry Harrison became governor. However, the inconvenience of traveling from Illinois to Vincennes through uninhabited country, coupled with the proslavery sentiment which prevailed in Illinois, caused the residents of Illinois to push for a separate territorial status. On February 3, 1809, the Indiana Territory was subdivided into the Illinois and Indiana territories, and the seat of government for the newly created Illinois Territory was established at Kaskaskia (Smith 1912:104-108).

The establishment of a land office at Kaskaskia in 1804 did much to encourage immigration to Illinois. Land was abundant and inexpensive. Although the formation of the new Illinois Territory promoted migration of settlers to Illinois, several factors affected movement into Illinois at the turn of the nineteenth century. Until 1809, when the Illinois Territory was organized formally and Kaskaskia was established as the seat of government, those pioneers who ventured into the present area of southern Illinois were compelled to travel through uninhabited country to Vincennes, an unattractive proposition to even the hardiest of settlers. The establishment of land offices in Kaskaskia (1804) and Shawneetown (1812) promoted a sense of stability and security on the frontier. As a result, the population of Illinois increased from 2,500 in 1800 to 12,282 in 1810.

As early as 1795, the Bird family is reported to have settled at the confluence of the Ohio and Mississippi rivers in modern-day Alexander County (Lansden 1976:258). This was the earliest permanent settlement in the 11 counties comprising southern Illinois. By 1799, the increase in river traffic necessitated the creation of two duty collection districts, one of which included Fort Massac. The importance

of Shawneetown as a gateway to Illinois and points further west dates from around 1800, when Michael Sprinkle is believed to have settled there (Allen 1968:341). In the same year, Lusk's ferry opened for business in Golconda. Around 1802, Alexander Wilson came to Shawneetown and soon began operating a ferry across the Ohio River, followed by William McFarlan's ferry which opened in Elizabethtown around 1808. The early pioneers made their way to one of these points of entry as they followed the Ohio, Tennessee, and Cumberland rivers from the southern and eastern states. After these points of entry had been established, providing direct and convenient access to Illinois, it became easier for immigrants to penetrate to the interior of southern Illinois via early Indian trails.

As the territory was divided and subdivided, the claim of the Indians to their hunting grounds was ceded gradually until nearly all of their land in Indiana and Illinois had been relinquished. As their hunting territory decreased in size, their discontent increased until they were moved to unite under such leaders as Tecumseh, who was actively inciting the Indians to violence. Several massacres occurred in the region of the Illinois River, and the Battle of Tippecanoe was fought on November 6, 1811. Hostility increased until 1812, when Indians in the Midwest and particularly around the Great Lakes sided with the British in the War of 1812.

During the period of Indian uprisings, Ninian Edwards, Governor of Illinois, actively promoted the establishment of defenses for American settlements in the Illinois Territory. It was at this time that blockhouses and forts were built, reaching across southern Illinois, as early settlers invariably met Indian opposition to encroachment on their traditional hunting grounds. By 1811, several blockhouses had been built in Williamson County, Jordan's Fort being one of the earliest (Parks n.d.). The Rude blockhouse near Somerset in Saline County, built in 1814, and other blockhouses built within Saline County as late as 1815, are indicative of Indian/pioneer confrontations which continued past the War of 1812 (Mohlenbrock 1977:20).

Early life in southern Illinois closely resembled that of the southern states, the original home of the earliest settlers. The first type of pioneer -- the hunter and woodsman -- arrived in the new frontier, presumably desiring isolation and abundant game. He constructed only a crude log cabin to provide basic shelter for his family, cleared only enough land to plant basic crops, and hunted and fished. As game resources were depleted and other settlers encroached upon his privacy, the hunter/pioneer moved his family further west to new wildernesses.

The second type of pioneer was more agriculturally oriented. He was searching for good, inexpensive land where he could settle and establish a new life, free from the restrictions of the older and more crowded southern states with depleted soils. This class of settler brought only the basics for homesteading. Previous experiences in the frontier made him resourceful and self-sufficient. He first selected a good site on which to homestead, choosing a prairie with an adjacent

timber supply when possible. Enough ground was then cleared to plant a minimal crop of corn to last through the winter. Once the basic food supply had been secured, a temporary log structure was constructed with a wattle-and-daub chimney and wood-shingled roof. The product of the first construction was often a one-room log dwelling, about 16 by 18 ft. This building served until the demands of an increasing family required the expansion of the original structure and time and finances permitted such expansion. Often, the initial cabin had no floor and was finished with crude, handmade fixtures made of split logs known as puncheons. Later, log structures were constructed more carefully of corner-notched hewn logs, daubed with lime mortar rather than mud, and with masonry fireplaces. Interiors were finished neatly with closely fitted boards. Occasionally, clapboards were applied to the exterior for added weatherproofing, and windows had glass panes.

The great expense involved in breaking the prairie sod restricted prairie farming to men of capital rather than the ordinary pioneer with few resources (Gates 1960:181). Prairie bluestem has deep, thick, coarse root systems, nearly impenetrable by the wooden moldboards and cast iron plows from the East. The development of the cast steel bottom plow by John Deere in 1837 and others opened the prairie to all with agricultural desires.

## Early Agricultural (1850-1900)

The Internal Improvement Act (1837) laid the groundwork for establishing a statewide railroad system, although it was not until 1850 that the Illinois Central Railroad was organized as a land-grant railroad, financed in part by mortgages on its grants and aid from municipalities and counties (Gates 1960:185-186). After 1856, when the line from Chicago to Cairo was completed, the period of railroad expansion began, and small towns and villages developed along the full length of the railroad (Corliss 1950:15-21).

Immigration, settlement, farm development, and railroad construction were all interdependent. The railroad brought lumber, farm machinery, breeding stock, and household equipment to the farms. In turn, hogs, wheat, and cattle were shipped to Chicago, St. Louis, and the East. Several independent railroads also were built in southern Illinois until the early 1900s to facilitate local transportation needs.

Cotton and tobacco, introduced by the early southern immigrants to southern Illinois, played a significant role in the economic life of the area prior to and until shortly after the Civil War. However, the uncertain climate and governmental regulations brought about their abandonment as cash crops. Truck farming and some fruit growing and processing figured prominently in the economy of southern Illinois during the latter half of the nineteenth and early twentieth centuries.

Coal mining had an early beginning in southern Illinois when William Boone built a barge at Brownsville, loaded it with coal, and floated it downstream to New Orleans (Thilenus and Snider 1968:34). Although a coal mine was operating in Jackson County by 1810, it was not

until the middle and latter part of the nineteenth century that coal mining became an important part of the economic life of southern Illinois.

The population of southern Illinois continued to grow during the second half of the nineteenth century, peaking between 1850 and 1870. Numerous grist mills and cotton gins were built throughout southern Illinois (Mohlenbrock 1976:16-17). By this period, towns and villages were well established and thriving economically. This prosperity was due to the railroad and the development of some industry toward the end of the century.

### Agricultural/Industrial (1900-Present)

Only a few of the early industries, quarrying and mining, have retained importance to the economy of southern Illinois. The fluorspar district in southern Illinois (Hardin and Pope counties) is the nation's leading producer of this scarce mineral. Although its earliest uses were tied to the metallurgical industry, fluorspar is now used widely in the production of chemicals and ceramics (Executive Committee on Southern Illinois 1949:107).

During the early 1930s, coal mining experienced a decline in much of southern Illinois, as did other industries. When economic depression set in, many miners were forced to leave the area in order to seek employment in the North. Today, however, coal mining is again one of the major industries in the area.

Many deposits of stone in southern Illinois have been quarried for construction, industrial, and chemical uses. Sand and gravel taken from sandbars in the Mississippi, Ohio, and Wabash rivers are used for road and building construction (Executive Committee on Southern Illinois 1949:110-111).

## Historic Archaeological Investigations

Archaeological excavations have been conducted on sites representing various historic periods. During the Explorer (1673-1700) and Colonial/Frontier (1700-1780) periods, fortifications were constructed, protecting the inhabitants from local Indians. Fort de Chartres is a French fortification built in 1721 along the Mississippi River. There were two rebuildings of this fort, with a change of hands to the British before its abandonment in 1772, when a wall collapsed into the river (M. Brown 1977:23-28). Excavations at Fort Massac, a French military installation near Metropolis in extreme southern Illinois, indicate that there were probably two building periods at the site (Rackerby n.d.:4). Fort Kaskaskia, located on the bluffs above the Mississippi River, was also a French fortification. This partially excavated site was constructed by 1760, possibly as early as 1734 (Orser and Karamanski 1977:13-14, 35).

During the Pioneer period (1780-1850), settlements began to develop in what was then the frontier. In southeast Missouri, Price (1979) conducted investigations at a pioneer cabin site of the early nineteenth century. Excavations and analysis of materials from the Jenkins site in Grand Tower, Illinois, is helping to establish if the building, constructed in 1829, was used as a general store in the 1840s. The materials excavated date between the 1820s and the 1870s (Powell 1981:personal communication).

Excavation on grounds around the former State Bank (1839) at Shawneetown revealed the remains of a brick building. It was located on the north side of, and parallel to, the existing bank structure. The actual use of the structure has not been determined. Materials recovered from the site date from 1762 through the second quarter of the twentieth century when a well was used as a refuse pit (Orser 1978:38).

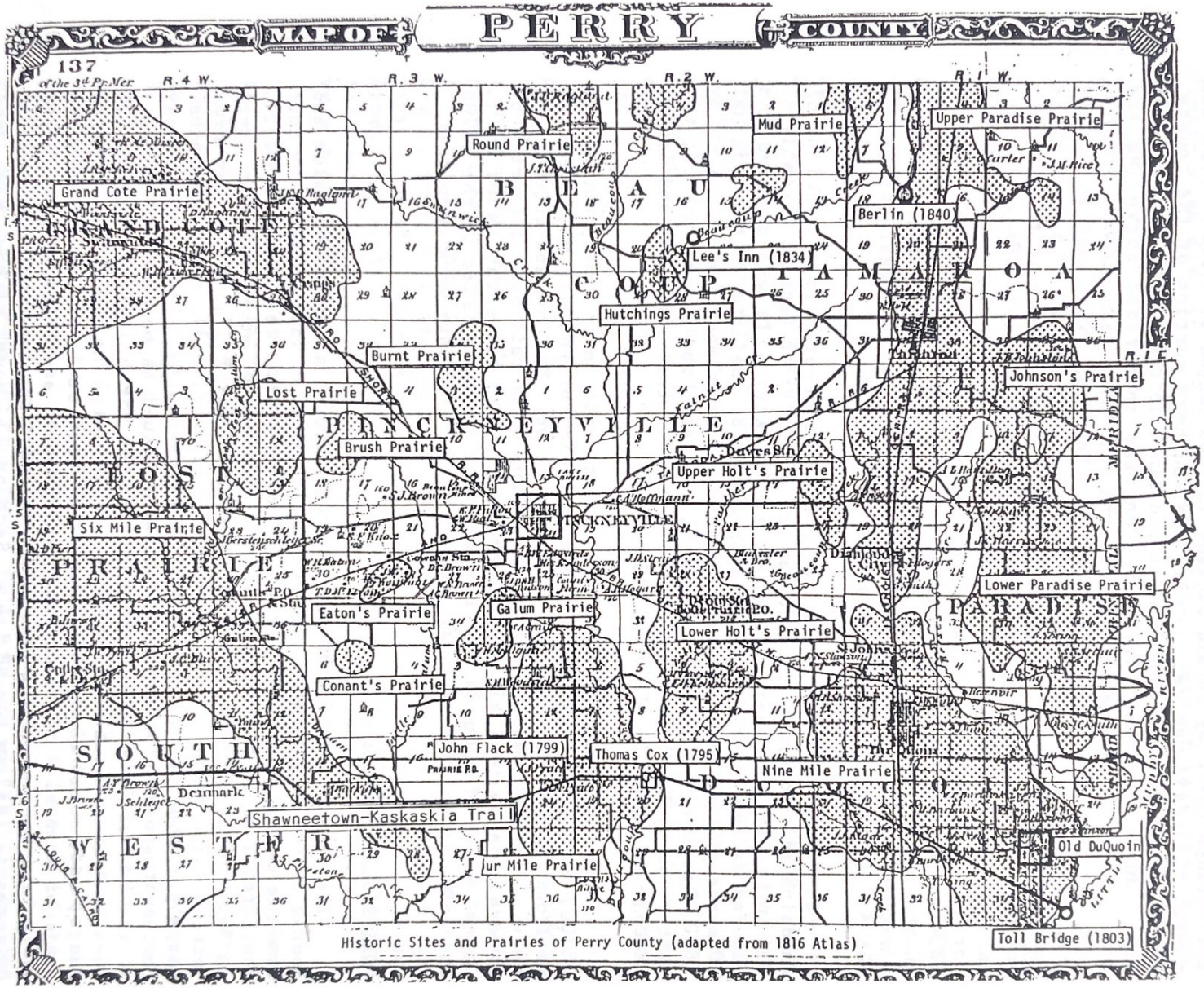
It has been only recently that sites of the Early Agriculture period (1850-1900) have been investigated. The Alorton site, located in Alorton, Illinois, near East St. Louis, was a mid-nineteenth century homestead (Powell 1981:personal communication). The basement of one structure has been excavated in the extinct town of Brownsville in Jackson County, Illinois. The material excavated dates between the early and mid-nineteenth century (Butler 1980:personal communication).

Early Perry County

In the early nineteenth century, the Perry County area was still being visited by the Kaskaskia Indians of the Mississippi Valley, who often held their fall hunts along the Big and Little Muddy rivers, camping southeast of Old DuQuoin (Dearinger 1975:19). Early white settlers on Four Mile Prairie found evidence of a recent battle there, probably between the local Kaskaskia and the Kickapoo, a group who lived further north in central Illinois (McDonough 1883:473). As late as 1816, the Kaskaskia were camped along Beaucoup Creek near Hutchings Prairie (Map 6) in Beaucoup Township (McDonough 1883:473).

Much of Perry County was originally wooded, although there were numerous prairie lands scattered throughout the area. The county first began to be settled in the early nineteenth century with most of the earliest settlers coming from the Carolinas, Tennessee, and Kentucky. Generally, they chose to settle on the more elevated, well drained areas which bordered prairie regions. Four Mile Prairie was one of the first regions in Perry County to be settled.

The first Euro-American known to settle in what is now Perry County was Thomas Cox, who lived on Beaucoup Creek within Sec 17, TS6, R2W. Cox was joined by John Flack, who came to the region in 1799. Flack built a cabin on a hill in the west half of the southwest quarter of Sec 11, T4S, R2W, in the area known as Four Mile Prairie (Map 6) (McDonough 1883:83).




MAP 6
Historic Sites and Prairies of Perry County
(adapted from Union Atlas Company, 1876)

Two early roads passed through Perry County. The Shawneetown-Kaskaskia trail crossed the Little Muddy River near Old DuQuoin at a toll bridge built by Jerald Jackson in 1803 (Sneed 1977:141). From the river, the trail ran west across the southern portion of the county, crossing through Four Mile Prairie and Six Mile Prairie and across Galum and Beaucoup creeks. In 1816, Congress authorized surveying and building of a road over the tract; the following year it was surveyed, widened, and improved (Sneed 1977:138). In 1818, John Flack advertised a bridge he had built across Beaucoup Creek in the Kaskaskia Intelligencer, claiming "the way opened by my bridge is three miles nearer, and much better than the old road" (Buck 1917:124). Another early trail, from Shawneetown to St. Louis, passed through the northeast portion of Perry County. A post office was established on this road in 1834 at an inn operated by Isaac and Abraham Lee in the northeast quarter of Sec 21, T4S, R2W. When this post office was closed in 1839, a new one opened about three mi southwest in the northwest quarter of Sec 5, T5S, R1W (Sneed 1977:139-140).

On January 19, 1827, Perry County was created from portions of Randolph and Jackson counties by an act of the Fifth General Assembly of Illinois. In December of that year, Pinckneyville was platted and entered as the county seat. By February 1828, the lots in the original 20 acres platted for the town were for sale to prospective settlers. By 1830, Pinckneyville had two stores, a tavern, and a post office, the latter run by Humphrey Jones, also the town's first physician and lawyer (McDonough 1883:161-162, 166, 336-338).

There was a steady influx of settlers into Perry County during the 1830s, but it was not until the completion of the Illinois Central Railroad in 1854 that any new towns sprang up. Tamaroa and DuQuoin, as well as several smaller towns, grew along this railroad, supported by several nearby coal mines. A large salt works was established in St. Johns, north of DuQuoin, in 1879. Other towns were built in the 1870s and 1880s after more railroads traversing Perry County were completed.

## Northfield, Galum Creek

The area of the Northfield, which surrounds a portion of Galum and Bonnie creeks in T5S, R4W, was originally timbered land bordered by Lost Prairie on the north and Six Mile Prairie on the west and southwest. The first land to be purchased in this area was 80 acres on Galum Creek in Section 21, entered by Matthew Vann on March 27, 1818. The same year, William McIntosh bought the NE 1/4 of Section 34, along with other large portions of what would become Perry County. His purchases may represent speculation in land originally issued as bounties to veterans of the War of 1812. Other portions of the Northfield definitely had been issued as such. McIntosh sold his large holdings after five years; and, until 1850, this quarter of Section 34 passed through the hands of several land speculators in New York and Pennsylvania. Other early land entries in the Northfield included Charles Owen's purchase of 80 acres in 1819 in the NE 1/4 of Section 33, south of Rock Fork, and Hugh Brown's purchase of the SE 1/4 of Section 28 in 1824.

Except for McIntosh, who probably lived in the east, these first land buyers were pioneers who settled on and farmed their property. Most had come originally from South Carolina and Tennessee and were of Scots-Irish descent. In the early 1820s, others of this same stock began to move into the Northfield. John Huggins, who located in the NE 1/4 of Section 32 in 1826, was the son of Robert Huggins, who had come from South Carolina to Randolph County around the turn of the century. Enoch Eaton, John Murphy, and their families emigrated from Smith County, Tennessee, to Perry County around 1822. Eaton settled just outside the Northfield in the NE 1/4 of Section 24. Robert Murphy bought 80 acres in the NE 1/4 of Section 22 and built his home there (McDonough 1883:84).

Throughout the next 15 years, most of these families increased their holdings along Galum Creek and the bordering prairie regions. John Huggins bought a large area east of Galum in sections 21 and 22. John Murphy's sons entered 320 more acres east of Huggins on Lost Prairie in 1833. Matthew Vann and Hugh Brown purchased more land in sections 21, 27, and 28, which adjoined their original entries. Richard Green of New York and Levi and Lucius Green bought land south of Brown in Section 33 and 34, as did Timothy Barber. The first to purchase the land on Six Mile Prairie in Section 4, T6S, R4W were Barber, Hugh Graham, and Christopher Anderson. William G. Brown and Robert Dunn purchased alternating quarters of the SE 1/4 of Section 34 in 1834. By 1840, all the land in the Northfield along Galum Creek and on the prairies in sections 22, 23, and 33 had been entered. Still unclaimed was much of the land along Bonnie Creek.

Remaining strips of land along the west edge of the Northfield were purchased by other individuals in the 1840s. James and Galen Campbell, Joseph Patton, Alfred Brittain, and Averill Sprague bought this remaining acreage. Meanwhile, other portions of the Northfield had changed hands immediately. The Murphy brothers sold some of their property to John Brown, and Lucius Green sold his 80 acres to Levi Green; in both transactions, only a year had passed since the land was first entered. James Campbell and Joseph Patton, both of whom lived in Randolph County, also soon sold their holdings. While John Huggins, Matthew Vann, and Levi Green held on to their property, other tracts were bought and sold on the average of every five years.

Perry County was created out of Randolph County in 1827 when it was still thinly populated, and certain of these first settlers of the Northfield consequently contributed to the early growth of the county. William C. Murphy had, in late December of 1827, traveled to Kaskaskia and entered the tract of land for the new county seat of Pinckneyville. He then was appointed the first county sheriff and was commissioned to sell the town lots. John Huggins, Matthew Vann, and Murphy all purchased town lots on the first day of sale in 1828. Murphysboro, in Jackson County, later was named in his honor. His brother, Richard G. Murphy, served as one of the first justices of the peace from 1827 to 1829, was elected as the county treasurer, then served in the Illinois state legislature from 1832 to 1842. Both Richard and William Murphy fought in the Black Hawk War in 1832, William being severely wounded in

the climactic Battle of Bad Axe. In 1850, Richard Murphy again was elected to the legislature and was appointed chairman of the committee which incorporated the Illinois Central Railroad (Biographical Publishing Company 1894:240-241; McDonough 1883:166, 337-338).

Levi Green built a grist mill in 1839, which was located on the Chester Road in the SW 1/4 of the NW 1/4 of Section 34. The mill was operated by teams of six or eight oxen and included a storehouse south of the mill. It was operated at least through the 1840s (McDonough 1883:337).

The Chester Road entered the Northfield in the northeast corner of Section 26 and ran southwest through Section 34. Near the site of Jamestown, it connected with another road running east-west across the middle of Section 35. The road continued west through the middle of Section 34, turned north at the southwest corner of the SE 1/4 of the NW 1/4, then ran straight west past Green's Mill through the middle of the N 1/2 of Section 33. At the southeast corner of the NW 1/4 of the NW 1/4, the road turned north again, then west at the northern boundary of Section 33 (Rainey 1975:10).

Present-day Highway 154 follows another early road that passed through the Northfield. In the nineteenth century, however, the road dipped into the northern half of Section 32, where John Huggins had a bridge across Galum Creek (Rainey 1975:10).

Until 1849, Enoch Eaton held Baptist services along this road in his home in Section 24. In that year, a church was built on the NW 1/4 of the NE 1/4 of Section 23, which now stands just north of the highway. A school was established in Section 16 near the road in 1835 (McDonough 1883:242, 269).

In the early 1850s, a large number of German immigrants arrived in Perry County, as they did in other parts of the Midwest, having been driven out of Germany by a series of political and economic revolutions. They were mostly hard-working farmers and artisans who had enough capital to buy land and begin farming (Chitwood and Owsley 1955:541-542). The land remaining unclaimed in the Northfield along Bonnie Creek first began to be taken by Germans in 1852. Through 1853 and 1854, Balsar and John Gertenschlager, John Jernger, George Roemhild, Peter Deninger, Casper Caupert, and Charles Icefetter bought much of the land in sections 23 and 26, which until then had been ignored.

At the same time, however, other families of Scots-Irish heritage who were already well established in Perry and Randolph counties began buying parcels of land in the immediate area, apparently in an effort to dissuade the Germans from locating there. John K. and William R. Blair, whose parents had settled in Randolph County years before (Biographical Publishing Company 1894:270), bought 120 acres south of where Casper Caupert had entered 80 acres in Section 22. John and William Stewart, also of Randolph County (Biographical Publishing Company 1894:470), were most likely competing for land when they bought 280 acres at the same time as the Gerstenschlagers and John Jernger were entering their

tracts. James McDonald, Henry Brown, and Matthew Huggins each bought from 40 to 160 acres that otherwise might have been claimed by the new immigrants.

Eventually, however, the newcomers purchased these lands from their competitors. The Gerstenschlagers, Cauperts, Becks, and other German families extended their holdings, especially after 1870; and, by 1900, those of German heritage held all of sections 23 and 26 and a large percentage of the remainder of the Northfield.

In 1872, the Chester and Tamaroa Coal and Railroad Company completed a track between these two towns that crossed Galum Creek in Section 34 and continued southwest across Six Mile Prairie, fostering the towns of Conant and Cutler on either side of the Northfield. The railroad line was transferred to the Wabash, Chester, and Western Railroad Company in 1878. Its president, William G. Barnard of Bellaire, Ohio, had purchased land along the railroad in sections 34 and 35 as early as 1871 and then transferred his properties to the Barnard Coal and Transportation Company (McDonough 1883:51). The railroad also inspired the founding of the Galum Coal Mining Company in 1872. The original partnership included John C. and Jabez Brown, sons of the early settler Henry Brown, and E. J. Steele, whose father, Robert, had once owned a tract of land that was bought by Barnard. Galum Coal immediately sunk a shaft just south of the railroad in the northwest corner of the SW 1/4 of Section 35 and worked it through the winter of 1873. A blacksmith shop also was on this site. This probably was the first coal mine in the Northfield. In the 1960s, Phillip Jacobs of Youngstown, Ohio, had leased land in the Northfield to mine coal and other minerals; no actual mining ever was done by him, and his leases eventually were cancelled. Other coal mines were started in the vicinity of Conant and Cutler with the coming of the railroad. There also was a lime kiln located in the SW 1/4 of the SW 1/4 of Section 34 which operated under private hands during the 1860s. Barnard Coal and Transportation Company continued until 1894, then sold some it its land in sections 34 and 35 to Jabez Brown and John and Uriah Barwell of Galum Coal.

Jabez Brown still owned more than 200 acres in this area in 1920 when he leased or sold it to James R. Allen of Mt. Vernon, Illinois. Allen was trustee and president of Allen Coal Company and had begun leasing other lands for coal rights the year before in the southern portion of the Northfield until he had acquired most of sections 34 and 35, the E 1/4 of Section 33, and Section 3 in the township to the south. In 1920, Allen platted a village in the NW 1/4 of the SE 1/4 of Section 35 and named it Jamestown. Lots in the town were sold the same year for about $200.00 each; and, during the next few years, two new additions were added to the northwest and north of Jamestown. One took the name of Sprague's Addition, and the other was called Dimond's Addition after Jesse Dimond, vice president of Allen Coal. Dimond also subdivided land outside Pinckneyville and called it Dimondtown.

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Gem sold out to Inter State Coal in 1927. During the Depression, Inter State Coal became bankrupt but was held together in a trusteeship under the bankruptcy laws. In 1945, after the last surviving trustee had died, the Burr Oak Coal Corporation acquired the coal leases on much of the land around Jamestown. The Universal Coal Washing Company leased lands north in sections 26, 27, and 28 in 1948 and 1949; they then acquired Burr Oak's interests as well and purchased lots in Jamestown. About 1964, Consolidation Coal Company acquired Truax-Trear and has been actively engaged in coal mining operations since that time.

Jamestown did not develop into the town of which James Allen had dreamed. Two blocks on the east side of the original plat were vacated in 1921; and, in 1925, most of the lots were sold for taxes to Alois Erhard. Nevertheless, about 35 to 50 families were supported by the nearby mines. A two-story building, erected by John Sedovnik, housed a general store and a dance hall. There were two more stores at one time (one later was renovated into a schoolhouse), a blacksmith shop, theater, restaurant, and a Baptist church. Later, a filling station, operated by a Mr. Brayfield, was added to the general store. A tavern was opened, as was a barber shop operated by Charles Moore. Ruth Alexander and a Miss Keene were two of the teachers who taught classes up to the eighth grade. When the mines that supported Jamestown closed in the late 1950s, the town itself consequently dwindled until it was completely vacated by the early 1970s (Sneed 1977:139).

Notes on Some Historic Sites in the Northfield

There are several cemeteries in the Northfield where some of the early settlers and German immigrants are buried (Survey Results section, this report). One cemetery (21C4-151H) that has been neglected and forgotton was on Levi Green's property near the mill site. It dates from 1827 to 1873. Members of the Green, Sprague, Brittain, and Brown families are buried there.

John Huggins' descendants continued to own and farm their land in sections 21 and 22 well into the twentieth century. Their family cemetery exists in section 21 and dates from 1837 to 1955 (21C4-111H).

Two large cemeteries where many of the German immigrants are buried lie on either side of Highway 154 near the Galum church. A third German cemetery was established by the Gerstenschlagers in the SE 1/4 of Section 23 (21C4-152H).

Mr. Paul Alexander, a former resident of Jamestown and the Cutler area, had some information on several historic sites:

- 21C4-61 could have been the home of a black family who, according to Mr. Alexander, lived in the woods somewhere in that area.
- 21C4-112H was the home of Amos Brown.

- 21C4-113H belonged to Clyde McIntyre.

- 21C4-124 was a "ranch" belonging to Walter Alexander in the late nineteenth century (ca. 1885-1893). He moved to Wyoming for a brief period, then lived on the west side of Highway 150).

- 21C4-126H belonged to Burt McIntyre, and 21C4-127H belonged to Frank Sprague. Between the two was a small coal mine. The pond west of Sprague's house (shown on the 1965 Percy quadrangle) was used for the boiler engines in the mining operations.

Some homestead sites were indicated in the records but were not located during the survey. George Lusk occupied the SW 1/4 of the NE 1/4 of Section 27 during the 1890s. Henry Brown, who came into the area in 1836 and died in 1874, lived in the S 1/4 of the NE 1/4 of Section 26. Site 21C4-101H, although it lies just south of this quarter section, may have been Brown's homestead. Levi Green's mill site has been substantiated as having been in the SW 1/4 of the NW 1/4 of Section 34.

## RESEARCH OBJECTIVES, DESIGN, AND METHODOLOGY

### Overview

The assessment of the cultural resources in the Northfield necessitated a planned multiphase research program. A two-phase management program was utilized. Phases I and II consisted of an intensive survey, testing, and evaluation program which was primarily designed to determine the significance of the cultural resources located and to develop appropriate mitigative strategies. This approach also allowed for the development of environmental and archaeological background information to provide the proper environmental and cultural context within which to conduct future research. In order to implement this program, it was necessary to have a flexible strategy which would accommodate construction and mining schedules, problem oriented research, and the many pragmatic aspects of cultural resources management as it is currently being practiced. The following objectives, research design, and methods represent one approach to meeting this challenge.

### Research Objectives

Several research problems were formulated and presented in the research proposal, outlining objectives for archaeological work at Burning Star Mine #4. The following were the primary objectives:

1. Locate all prehistoric and historic archaeological sites within the research area.

2. Evaluate and assess these resources for significance using the National Register of Historic Places criteria.

3. Produce a final report of the Phase I and Phase II research 12 months after the initiation of the project which will include the results of the research and provide recommendations for any Phase III mitigation.

Secondary objectives were:

4. Research and document the historic settlement and exploitation within the project area.

5. Develop an environmental baseline for the Phase I research.

6. Develop specific hypotheses for testing during Phase II research.

Research Design: Considerations for Hypotheses Development

Cultural environmental theory is perhaps the most common and productive research direction utilized in the till plains region. This approach examines the relationship between man and his social and natural environment.

Settlement-subsistence is a key analytical device for studying the systematic interrelationship between man and the natural environment. This concept measures the structured set of relationships between man and the biophysical environment. Settlement reflects the economic adaptive strategies utilized by prehistoric groups. These adaptive strategies are the result of human decisions regarding scheduling of exploitative activities around certain critical resources. The decision-making process is directly effected by the location and seasonal availability of these critical resources.

The two key elements in settlement-subsistence studies are human populations and natural environments. A human population, in an anthropological sense, refers to individual societies representing "distinctive, recognizeable [sic] cultural systems expressing a coherent body of social customs, beliefs, and technology by which the society operates" (Swedlund and Armelagos 1976:5). Midwest archaeologists have studied populations on a local and regional level (Asch 1976; Buikstra 1976). These studies primarily have dealt with general cultural groups such as Middle Woodland. Possibly, as research progresses in Galum Creek, local populations might be defined which would reflect cultural and/or biological differences within these general cultural groups. Interaction among local populations would provide a better understanding of man-man and man-land relationships within an ecosystem of small stream drainages.

The natural environment refers to the resources available to prehistoric populations for exploitation. These resources are distributed within environmental zones which are characterized by distinct types of environmental features. The zones may be described as patches, that is, areas occupied by organisms

> . . . distinguished by discontinuities in environmental character states from their surroundings; implicit are the notions that the discontinuities have biological significance, and that they matter to the organism (Wiens 1976:83).

Resource patches directly affect hunting/gathering groups with regard to two important factors: resource abundance and resource predictability (Dyson-Hudson and Smith 1978). Resource abundance may be defined as

> an average density over a broad area (the average for the territory or home range), as an average value within a particular type of microhabitat (within-patch density), and in terms of the fluctuation in density over time (the range of variability) (Wiens 1976:24).

The abundance of resources refers not specifically to high biomass but to resources producing high caloric intake over energy expenditure.

Resource predictability measures "both a spatial component (predictability of location) and a temporal one (predictability in time) (Wiens 1976:24). The spatial dimension refers to the variability in the distribution and configuration of resource zones. The temporal dimension refers to the seasonal availability of resources. Both resource abundance and predictability directly affect decisions about resource scheduling among hunters/gatherers.

Although Dyson-Hudson and Smith (1978) were studying resource abundance and predictability in relation to their effect on hunter/gatherer territorialism, these factors have important implications for settlement systems in general. Environmental conditions provide crucial input for human decisions about resource scheduling.

Binford (1980) described two resource strategies of hunters/gatherers which may appear under certain environmental conditions. Foragers are characterized by "mapping onto" resources; that is, resources are enountered on a daily basis and rarely are stored (Binford 1980:5). This strategy requires frequent moves of residential groups to these critical resources. This strategy is feasible "only if all the critical resources were within foraging range of the residential base" (Binford 1980:15).

The second strategy is common among collectors which involves partial food storage and logistically organized strategies (Binford 1980:15). Binford stated that "logistical strategies are labor accommodations to incongruent distributions of critical resources or conditions which otherwise restrict mobility" (Binford 1980:10). Task-specific groups will leave the residential base temporarily to exploit distant, critical resources.

Binford's discussion of hunter/gatherer settlement systems provided some arhcaeological implications about settlement types and their distributions within the natural environment. Three site types have particular importance to potential research along Galum Creek. Residential bases and locations are characteristic of both foragers and collectors. Field camps are characteristic of collectors. These sites are defined below:

1. Residential bases are "the hub of subsistence activities, the locus out of which foraging parties originate, and where most processing, manufacturing and maintenance activities take place" (Binford 1980:9).

2. A field camp "is a temporary operational center for a task group . . . [where it] maintains itself while away from the residential base . . . [and] may be expected to be further differentiated according to the nature of target resources" (Binford 1980:10).

3. A location "is a place where extractive tasks are exclusively carried out" (Binford 1980:9).

The major difference between field camp and location is that the field campsite is used for the procurement and processing of large masses of food for a larger population for long-term consumption (Binford 1980:10).

The implications of the three site types to research in Galum Creek is not to differentiate collectors vs. foragers, not to say this goal is unimportant. Rather, it simply is to discriminate between residential bases or base camps and other temporary campsites.

Settlement-Subsistence Model and Hypotheses

After extensive reviews of previous archaeological work in the till plains, a settlement-subsistence model was formulated which incorporated previous hypotheses and generated additional hypotheses (A through K) to be partially tested during Phase I research. The proposed settlement-subsistence model does not change the overall research goals for the Phase I study but provides a framework which will guide and enhance future research. The following discussion will outline and describe the settlement model and hypotheses which will be examined in discussions of survey and testing results.

The settlement-subsistence model proposed by Denny (1972:237-238) for the till plains area serves as a departure point for formulating the model to be utilized in this study. The settlement model is described as follows:

> Beginning in the Middle Archaic a seasonal settlement pattern emerged which involved a late summer-early fall collection of acorns in the Post Oak Flats zones . . . . This form of settlement apparently persisted until the end of Middle Crab Orchard. With the beginning of extensive influence from groups involved in the Hopewellian interaction sphere in the late phase of the Crab Orchard Tradition the settlement pattern changed to one concentrated in the Mississippi River floodplain with only minor occupations of the Till Plains region. This change may correlate with a shift from extensive utilization of acorns and other forest products to the utilization of disturbed habitation plants such as chenopodium and amaranthus . . . . (Denny 1972:237).
>
> The distribution of Late Woodland sites . . . represents a return to the settlement pattern of Archaic populations of the area with a balanced exploitation of all 3 zones [bottomland, post oak flats, and prairie] and less specialization on the collection of acorns and nuts in the Till Plains region (Denny 1972:238).

> The distribution of Mississippian sites indicates a concentration in areas within the Mississippi River floodplain . . . . The Till Plains region appears to have been almost totally devoid of Mississippian occupation with the exception of site 24B4-15 which was apparently a highly specialized site used for the processing of salt (Denny 1972:238).

Denny's model contains some important hypotheses related to the prehistoric utilization of the till plains which might be applicable to the upper Galum Creek locality. However, current information from Galum Creek and other areas in the till plains must be incorporated into the model.

Paleo-Indian sites are not mentioned in Denny's model. Pulcher (1974a:40) recorded one site in the lower reaches of Galum Creek, and Denny (1972:161) noted three sites in the Big Muddy drainage. Williams and Woods (1978:20) recorded 17 sites in the Big Muddy, predominantly in interior upland settings. These studies suggested that Paleo-Indian sites are few in number and concentrated in upland settings. Based on this information, the following hypothesis was offered for upper Galum Creek:

> Hypothesis A: Paleo-Indian occupations are infrequent, represented by small sites dispersed on hill slopes or hill crests, primarily engaged in hunting activities.

Although not discussed specifically, Denny (1972:162) suggested that sites from Early Archaic are primarily located on zones adjacent to bottomland. Slope woodland is adjacent to bottomland in upper Galum Creek. There are more Early Archaic sites in Denny's sample (N=13) than Paleo-Indian sites. The subsistence pursuits during this period are not clearly discussed for the till plains. Studies in the Midwest suggest that a hunting and gathering economy is employed. Some evidence suggests a correlation between sites and higher elevations (Van Hoy 1980). Based on the above information, the following hypothesis was proposed for the Early Archaic:

> Hypothesis B: During the Early Archaic, site frequency increases slightly with seasonal campsites primarily located in slope woodland settings on elevations higher than other prehistoric sites. These sites are engaged in hunting/gathering activities.

Denny proposed that the number of Middle Archaic sites increases considerably over the number from the Early Archaic (Denny 1972:166, 239). These sites are primarily located near bottomland and show slight increases in bottomland locations (Denny 1972:166). He further suggested that Middle Archaic sites are characterized by a balanced hunting/gathering economy (1972:266). This settlement-subsistence pattern continued throughout the Late Archaic. Pulcher's study in Galum Creek indicated that 65% of the Archaic sites occur in slope woodland (1974a:39-40, 18-23). Williams and Woods (1978:26) showed that Archaic sites primarily occur in upland/alluvial settings. This topographical

position is similar to slope woodlands, which are adjacent to bottomland or alluvial settings. The preceding information may be incorporated with Denny's initial model to read as follows:

> Hypothesis C: During the Middle and Late Archaic, site frequency increases considerably with seasonal occupations located primarily in the slope woodlands but with increasing tendencies toward bottomland locations engaged in late summer-early fall exploitation of nuts, acorns, and fauna.

Early Woodland sites are not numerous in the till plains, mainly because artifacts from this period are difficult to distinguish from early phases of the Crab Orchard tradition. This time period is difficult to define for southern Illinois and was not incorporated into the Phase I settlement model. Further research in the upper Galum Creek area might clarify problems about this prehistoric complex.

The Middle Woodland period is represented by the Crab Orchard tradition in southern Illinois. Due to the small quantity of diagnostic Crab Orchard artifacts, the three-phase division of this tradition is not used for Phase I research. Denny (1972:177) stated that the intermixture of artifacts from these Crab Orchard phases on sites in southern Illinois makes phase designations on habitation sites difficult and confusing. Since surface survey and limited testing are being conducted during Phase I research, there undoubtedly will be very few ceramics which could differentiate Crab Orchard phases. For this reason, Middle Woodland is used to describe Early to Late Crab Orchard.

Denny (1972:177) noted that Middle Crab Orchard sites show a considerable increase in number over the Early Crab Orchard phase. Site frequency is slightly higher than that observed during the Middle and Late Archaic. These sites are primarily located near bottomland settings. Denny (1972:226) also suggested that Crab Orchard sites show a late summer-early fall subsistence economy oriented more toward acorns with limited hunting. Pulcher (1974a:39-40, 18-23) recorded only two Middle Woodland sites in Galum Creek which are located in bottomland and slope woodland settings. Williams and Woods (1978:26) showed that seven out of eight Woodland sites in Galum Creek are in upland/alluvial settings. Considering this information in terms of a general Middle Woodland or Crab Orchard tradition cultural period, the following hypothesis may be stated:

> Hypothesis D: During the Middle Woodland, there is a significant increase in settlement over Middle and Late Archaic site frequencies, with sites primarily located in slope woodland settings reflected by seasonal late summer-early fall sites focused on the exploitation of acorn resources with limited hunting.

Denny (1972:240) suggested that Late Woodland sites are considerably less frequent than the Middle/Late Archaic and Middle Woodland. These sites are primarily located in positions adjacent to bottomland. Pulcher's (1974b) work on a Late Woodland site in Galum

Creek (Burning Star site, 21C4-3) offered additional evidence for this period. Excavations from the site indicated a substantial habitation consisting of a diverse artifact inventory, pits, a semi-subterranean structure, and burials. A seasonal habitation site was indicated, possibly including one or more fall and winter occupations engaged in hunting and gathering activities (Pulcher 1974a:107-109). The Burning Star site and five other Late Woodland occupations in Galum Creek (Pulcher 1974b:18-23, 39-40) are located in slope woodland settings adjacent to bottomland. The following hypothesis may be proposed:

Hypothesis E: During the Late Woodland, site frequency is significantly lower than during the Middle to Late Archaic and Middle Woodland, with site locations primarily positioned in the slope woodland, represented by seasonal hunting/gathering occupations.

McNerney's (1974) investigations at the Brune site (21D3-9) along Galum Creek provided information about Mississippian habitation sites. Denny found little evidence for Mississippian occupations along the Big Muddy. The Brune site contained pits, a wall trench house structure, and stone box burials. Subsistence remains indicated a hunting/gathering economy with indirect evidence (i.e., polished flakes) of horticultural activities (McNerney 1974:54). Site survey along Galum Creek (Pulcher 1974a) suggested that eight of nine Mississippian sites are located in the slope woodlands. Williams and Woods (1978:26) noted one Mississippian site occurring in upland/alluvial settings. Several stone box cemeteries are recorded for Galum Creek (Pulcher 1974a:38, 41). The following hypothesis was proposed for the Mississippian period:

Hypothesis F: During the Mississippian period, site frequency is significantly lower than during preceding cultural periods, and sites are primarily located in the slope woodland, represented by occupations engaged in hunting/gathering activities and possibly horticulture. In addition, it is proposed that specialized stone box burial sites might be associated with salt extraction and distribution activities.

In association with the temporal settlement model proposed above, several hypotheses were generated from previous archaeological studies. They related to the spatial distribution of prehistoric sites in Galum Creek and the till plains. These hypotheses are discussed below.

Hypothesis G: Total prehistoric site densities in the Galum Creek locality range between $1/km^2$ to $5/km^2$.

Both elevation and distance from perennial streams were investigated by Williams and Woods (1978:26) for sites in Galum Creek. Their results showed that there were 2.4 sites per linear km of perennial streams and .4 sites per km of intermittent streams. Most prehistoric sites in Galum Creek (81%) were located from 440-450/460 ft above msl (Williams and Woods 1978:25-26). These variables were presented as a hypothesis below:

Hypothesis H: Prehistoric sites will be closer to perennial streams than intermittent streams, and sites will cluster at 440-450/460 ft above msl.

Denny proposed that most prehistoric sites in the till plains were bottomland settings and were infrequent in prairie (1972:185). Pulcher (1974a:26) noted that prehistoric sites in Galum Creek clustered in slope woodlands, followed by post oak flats, prairie, and bottomland. Williams and Woods (1978:26) tabulated sites primarily in upland/alluvial settings which correlated with the slope woodland zone in Galum Creek. The following hypothesis was proposed from these data:

Hypothesis I: Prehistoric sites in upper Galum Creek will be primarily located in slope woodland, followed in frequency by post oak flats, prairie, and bottomland.

Vegetation context has important relationships with prehistoric site distributions in the Midwest (Roper 1974, 1975). The presettlement environment in Galum Creek has a zonal configuration around streams (Map 2). It is proposed that most prehistoric sites in the project area are located in slope woodland. This zone usually is positioned among all major vegetation zones. Based on this information, the hypothesis for this variable was as follows:

Hypothesis J: Prehistoric sites are predominantly located in the context of bottomland, slope, and upland resources.

Denny proposed that most sites in the till plains were seasonal campsites engaged in hunting/gathering activities (1972:220-237). This premise was defined as:

Hypothesis K: Most prehistoric sites are represented by seasonal temporary campsites engaged in hunting/gathering activities.

## Research Methods

The methodology implemented at Burning Star #4 closely followed the strategy utilized at Deep Strip #3 (Higgins et al. 1984 [original draft 1980]). Survey, testing, and analysis procedures were devised to provide information needed to achieve the primary and secondary research objectives described earlier. Site significance also is a major consideration since mitigation plans are based on recommendations of archaeological significance.

## Survey Methods

A survey of archaeological and historical resources in Burning Star Mine #4 was begun May 21, 1979, and ended in October 1979. The survey was conducted in two phases covering approximately 4,938 acres (1,998 ha). The first phase was performed between May and June, 1979, in cultivated fields totaling about 3,000 acres (1,214 ha). The second

phase was conducted by Dr. Joseph M. Nixon during September and October, 1979, in forested and heavy brush areas covering about 1,938 acres (784 ha).

Cultivated fields were walked in 15 m intervals, and all cultural material was noted. When a site was encountered, a thorough examination of the area was made, and approximate site size was determined where possible. Culturally diagnostic material was collected, and observations were made of the relative density and types of material present. Other notes recorded about the site included environmental context, natural disturbances, sketch map with appropriate landmarks, and location on a 7.5′ series USGS topographic map.

Uncultivated land was surveyed using a shovel testing technique. Shovel probes were placed at 30 m intervals, and the soil was sorted through with trowels in order to locate cultural materials. Although it is recognized that sites can be overlooked using this method, it is extremely doubtful that any sizable sites were missed. It might be important on future surveys to test the premise that there is no significant difference in site recovery between shovel tests with screening and shovel tests without screening. Haas (1978) found that screening in heavily wooded areas of eastern Missouri located sites that might have been missed by troweling shovel test deposits. The debitage recovered by screening could not have been easily seen by visual inspection. Since small sites are more common in upland surveys, it is important to have a reliable recovery method. The best method can only be known by comparing the results of both shovel testing techniques. The notes recorded about sites in cultivated fields also apply to sites in forested and brushy areas.

During the survey, all locations with cultural material were assigned field numbers. Site numbers were assigned to locations with two or more cultural items or to low visibility locations with one cultural item. Low visibility locations were restricted to uncultivated areas. Isolated find spots were defined as any highly visible location with one cultural item. Site areas were differentiated in the field primarily by topographical features. Although defining sites by two or more cultural items appears conservative, studies of hunting/gathering societies (Bicchiere 1969; Binford 1980; Hayden 1978) indicated that low visibility sites (i.e., sites with isolated tools or few cultural materials) are produced by foraging and collecting groups. As discussed above (Research Objectives section, this report), most prehistoric occupations in upper Galum Creek were proposed to represent hunting/gathering activities and were expected to contain only small artifact assemblages.

Test Excavation Methods

Test excavations were conducted in conjunction with surface survey during the 1979 field season. This field strategy was implemented because premining construction associated with the diversion channel (Map 2) activity was scheduled to begin before the 1980 field season,

and assessments and recommendations were needed for 13 sites in the construction area.

The proposed testing methodology in the research proposal was stated as follows:

> A 0.5% sample will be excavated and processed from each site tested. This will be accomplished by the excavation of 1 m x 1 m squares systematically distributed across the site. These squares will be excavated to the base of the plow zone in order to locate undisturbed cultural deposits as a means of determining the sites' significance and potential for answering specific research questions. Deeper excavations will be conducted as necessary.

Certain modifications in the proposed testing methodology had to be made early in the field season, as it became apparent that a 0.5% sample from each site was unrealistic in terms of both the scope of Phase I research and the time it would take to achieve such a sample.

First, it was decided that 1 $m^2$ test units would be placed at 20 m intervals along cardinal directions. This would achieve the dual purpose of delineating site limits and recovering subsurface information. This alternative procedure decreased the site sample from 0.5% to between 0.3% and 0.03% depending on site size.

Second, test units were excavated to 5 cm below the plow zone to discover undisturbed cultural deposits. Depending on the depth of cultural deposits, either one or all excavation units were excavated to culturally sterile soil.

Third, one excavation unit from each site was excavated to about 50 cm below the surface to define soil stratigraphy and to discover cultural material below culturally sterile deposits. All soil deposits were dry screened through 1/4 in. screen. All subsurface features exposed in the excavation units were removed. Soil samples were extracted from features and water screened to recover floral and faunal remains.

Site Selection Procedures for Mitigation

The nature of Phase I research in the Northfield, Burning Star Mine #4, required a two-stage evaluation of site significance. Stage I was specifically designed to locate, evaluate, and conduct test excavations in order to determine site significance. Although an archaeologically valid methodology was implemented, no quantitative spatial analysis was utilized to discover locational relationships among sites. However, the discovery of site variability or patterning is achieved by the formulation of "clusters" of similar sites. These clusters provide the basic framework for site selection and studying known prehistoric/historic variability in the project area.

## Probability Sample

Site selection from the 117 archaeological sites was based on a random, disproportional, stratified cluster sample. The "cluster" technique is used to develop strata which contain sites with similar characteristics. The stratified scheme is the division of the target population (i.e., total number of sites) into groups or strata based on archaeologically relevant parameters. The strata should account for as much relevant variability in the target population as possible.

The strata devised for the prehistoric sites defined in this project included cultural affiliation, distance from nearest perennial stream, and vegetation context within a 1 mi catchment radius from the site. In the case of historic sites, vegetation was not utilized.

Cultural Affiliation. Traditional Early-Late intervals for the Archaic and Woodland periods were utilized. The historic period also is subdivided into five time intervals, although only the latter three periods, Pioneer, Early Agricultural, and Agricultural/Industrial, actually were represented in the project area. Early Woodland sites were not present in the project area, so this time interval was not used. Each cultural component from a multicomponent site was treated separately; that is, the same site may be present in more than one stratum. All sites with unknown cultural affiliation were grouped into a separate stratum. In addition, sites known only by nondiagnostic pottery or diagnostic Woodland point forms were categorized in a Woodland stratum. Eleven strata were defined for cultural affiliation and include Early Archaic, Middle Archaic, Late Archaic, Middle Woodland, Late Woodland, Woodland, Mississippian, unknown, Pioneer, Early Agricultural, and Agricultural/Industrial.

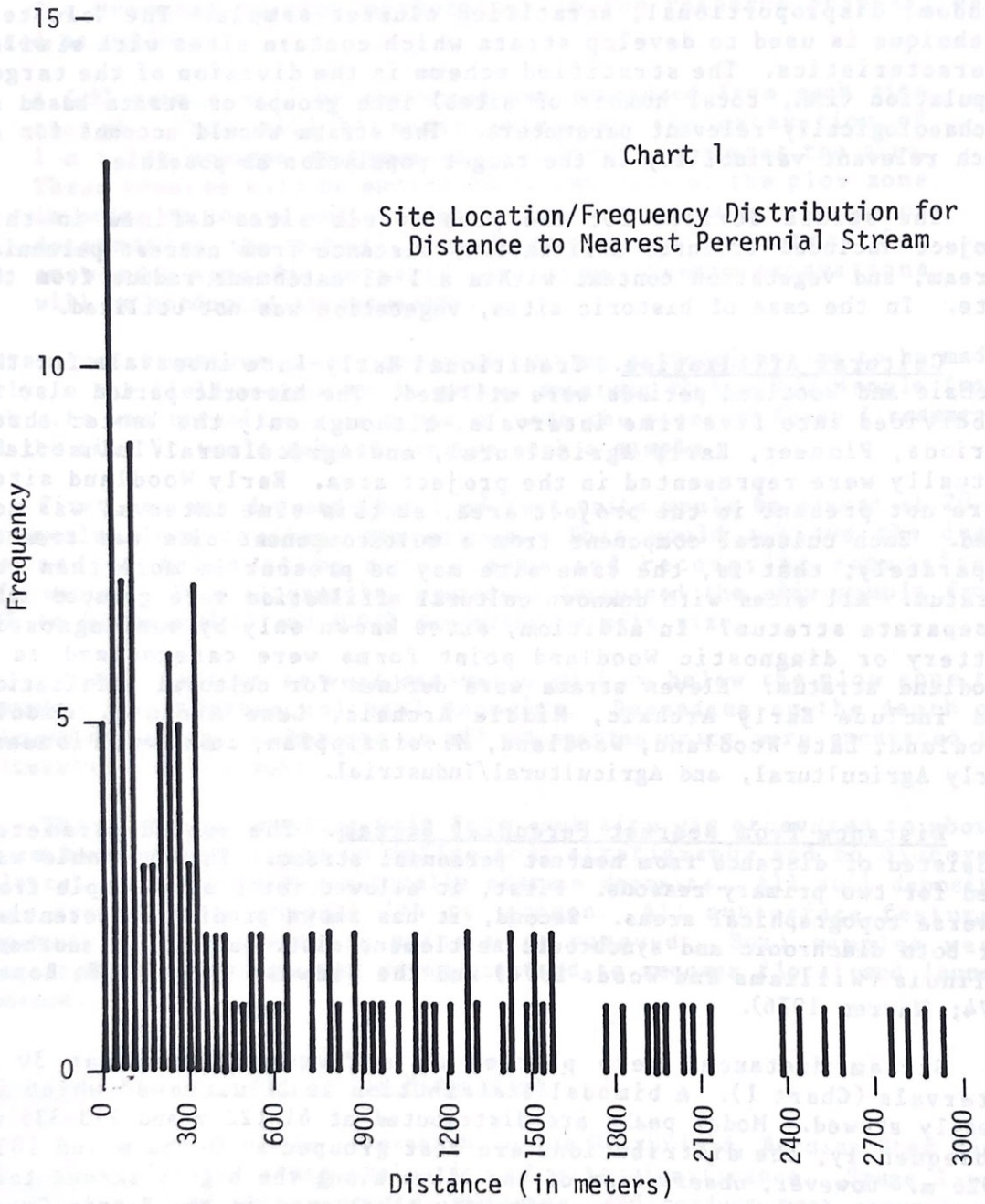
Distance from Nearest Perennial Stream. The second parameter consisted of distance from nearest perennial stream. This variable was used for two primary reasons. First, it allowed for a site sample from diverse topographical areas. Second, it has shown predictive potential for both diachronic and synchronic settlement distributions in southern Illinois (Williams and Woods 1978) and the Midwest (Haas 1978; Roper 1974; Warren 1976).

Stream distances were plotted on a frequency graph at 30 m intervals (Chart 1). A bimodal distribution is illustrated which is greatly skewed. Modal peaks are distributed at 61-122 m and 213-335 m. Subsequently, the distributions are best grouped at 0-152 m and 183-2,926 m. However, observation of the sites along the highly skewed tail of the diagram indicates sites primarily positioned in the Bonnie Creak drainage. Therefore, it was decided to further group sites into a 610-2,950 m stratum to segregate sites on ephemeral tributaries. The final distance intervals were 0-152 m, 183-579 m, and 610-2,950 m.

Vegetation Context. The third major variable was vegetational context. These strata were established by the combination of vegetation zones within a 1 mi radius of a prehistoric site. This approach resulted in the stratification of the prehistoric sites into six

Chart 1

Site Location/Frequency Distribution for
Distance to Nearest Perennial Stream



vegetational contexts, including: bottomland-slope woodland, slope woodland-post oak flat, bottomland-slope woodland-post oak flat, bottomland-slope woodland-prairie, slope woodland-post oak flat-prairie, and bottomland-slope woodland-post oak flat-prairie.

Only the presence of environmental zones was recorded rather than a quantitative measure of the area, a technique used in other Midwest studies (Roper 1975). Although this lacks the mathematical refinement of areal measures, a qualitative approach was appropriate within the goals of Phase I. The underlying critical assumption here is that prehistoric populations located in areas nearest to target resources. Reidhead (1976, 1977) gives a critical evaluation of this assumption.

After all sites were placed in their respective strata, an additional step was implemented to increase the site sample from the unknown cultural affiliation strata. Sites in this strata are numerous since locations in forested areas and fields with dense cover biased the collection of diagnostic items. Therefore, one site was randomly selected from forest and one from dense ground cover in cultivated fields.

Thirty four prehistoric sites (Table 13) and nine historic sites (Table 14) were randomly selected from the stratified universe. These sites were recommended for test excavation, surface collection, or other mitigative measures and should represent the known variability in the target population.

The presence of one Mississippian cemetery and one probable mound offered an opportunity to study demographic structure and morturary practices. These sites were selected in the random sample based on their unique locational position. Despite the random selection, the two sites would have been investigated anyway to obtain demographic information.

## Purposive Sample

Six archaeological sites were to be directly affected by a diversion channel. In conjunction with channel permit requirements, these six sites were selected for testing. Two sites (21C4-56, 21C4-57) already had been selected in the probability sample. The other four sites are 21C4-29, 21C4-58, 21C4-59, and 21C4-110.

## Historic Site Sample

The nine historic sites randomly chosen for testing were: 21C4-93H (Pioneer period); 21C4-38, 21C4-86H, and 21C4-125 (Early Agricultural period); 21C4-104, 21C4-126H, and 21C4-135H (Agricultural/Industrial period); and 21C4-137 (unknown historical period). Finally, the Early Agricultural component on 21C4-110 was tested in 1980 during work on the prehistoric component at the site.

Relative age is important for archaeological evaluation of historic sites due to the increasing availability through time of published and

unpublished historical sources which reduce the significance of historic archaeological remains and the need for mitigation through excavation.

Although there has been no detailed historic settlement pattern study in the till plains, distance to nearest perennial stream is considered an important variable since Austin (n.d.), in his literature search on deeds and tax records, found that the earliest (pre-1840) purchases of property were for lands bordering the creek and nearby prairies.

## Artifact Analysis

### Prehistoric Artifact Analysis Procedures

All artifacts collected from survey and test excavations were washed, sorted, and cataloged by provenience using the accession numbering system of the Center for Archaeological Investigations, Southern Illinois University at Carbondale, Illinois. The primary goal of this analysis was to present a formal description of all artifacts. Artifact description is considered an important initial step for discovering artifact variability between site assemblages. The Phase I artifact analysis provides formal artifact categories as a framework for applying specialized technological and functional analyses to larger artifact samples as mitigation continues. There were some descriptive variables (i.e., length, width, thickness, cortex, edge modification type, chert type, etc.) which could be used for future analyses. Appendix A provides prehistoric artifact definitions and descriptions, and Appendix B provides historic artifact definitions and descriptions. The quantification, metric attributes, and detailed artifact descriptions by site are not included with this volume but are available upon request from American Resources Group, Ltd.

### Historic Artifact Analysis Procedures

Classification and analysis procedures for historic components located in the Galum Creek project area paralleled those used for prehistoric materials. Twelve classes were used to describe and quantify material. A detailed description of these classes and their attributes is given in Appendix B.

## Criteria for Determining Site Significance

Currently, there are several varieties of significance commonly discussed. Schiffer and Gumerman (1977:239-246) offer six varieties of significance: scientific, historical, ethnic, public, legal, and monetary. For the purposes of this assessment, the legal (Corps of Engineers and state permit requirements, etc.), scientific, and public significance were used to evaluate the sites and to make determinations of significance. Although determination of significance most commonly centers around legal aspects, it is our opinion that scientific and

public significance are conceptually linked to legal significance and also should be considered.

Legal significance is the basis for most cultural resources assessments and is familiar to both contract archaeologists and federal agencies. In compliance with Executive Order 11593, the National Environmental Policy Act, the Archaeological and Historical Conservation Act of 1974, and the Federal Water Pollution Control Act of 1972 (PL 92-500), it is necessary to determine National Register of Historic Places eligibility. A set of criteria for assessing legal significance and determining NRHP eligibility has been established.

> The quality of significance in American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects of state and local importance that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and
>
> (a) That are associated with events that have made a significant contribution to the broad patterns of our history; or
>
> (b) That are associated with the lives of persons significant in our past; or
>
> (c) That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack distinction; or
>
> (d) That have yielded, or may be likely to yield, information important in prehistory or history (Federal Register 1976:1595).

A site or resource is said to be scientifically significant when its further study may be expected to help answer current research questions. That is, scientific significance is defined as research potential (Schiffer and Gumerman 1977:241). Schiffer and House (1977:249-257) defined four major types of archaeological research questions which they in turn designated as major kinds of scientific significance: (1) substantive, (2) anthropological, (3) social scientific, and (4) technical, methodological, and theoretical.

Substantive significance relates to particular times and places and is known as ideographic (the study or explication of individual cases or events). Substantive questions encompass a vast array of topics and crosscut both culture-historical and most processual research interests (Schiffer and House 1977:251). Anthropological significance relates to processes of long-term culture change and ecological adaptation. Social scientific significance has to do with the ability of a resource to provide information on contemporary social, economic, and environmental

problems. The rationale here is that archaeological resources may offer insight into such modern problems as recycling, environmental degradation, etc. The fourth type of scientific significance is technical, methodological, and theoretical. This category simply relates to the ability of a resource to contribute to the discipline of archaeology.

Public significance includes, but is not limited to, the use of archaeological sites to educate the public about the past and the ways it is studied; the use of research findings to enrich our present existence; the use of archaeological information by industry for practical application; the use of objects, ruins, and stabilized or restored structures for public exhibit and enjoyment; and benefits to the local economy that result from tourism attracted by archaeological exhibits (Schiffer and Gumerman 1977:245).

This brief review of the types of significance which are relevant to this Phase I assessment provided a background for evaluating the sites in question. It was evident from this review that the judgment of the archaeologists, the State Historic Preservation Officer (SHPO), and other agencies will continue to play a key role in determining significance. Also, the three varieties of significance, when viewed together, come closer to providing understandable rationale for preserving the cultural heritage of this nation than any single criteria.

## SURVEY RESULTS

### Overview

One hundred seventeen archaeological sites were recorded from the survey of Northfield, Burning Star Mine #4 (Table 2) (Map 2). Prehistoric occupations were the most frequent, totaling 100 (79%) components. Historic components comprised 29 (21%) of the total inventory. Sixty four sites were located in cultivated fields with excellent visibility. Fifty four sites were located in forest and heavy brush with low visibility. Sites with low visibility were primarily recorded from shovel testing and observation of restricted exposures. Site size and cultural affiliation could not be determined for these sites.

A low percentage of prehistoric sites (30%, n=30) were assigned to relative chronological periods. The sites ranged from Early Archaic to Mississippian (ca. 8000 B.C. - A.D. 1500). Most historic sites were assignable (97%, n=29), ranging from Pioneer to Agricultural/Industrial periods (ca. 1850 to present).

Several problems are inherent in the temporal designations from surface survey. Early historic and prehistoric sites possibly are not visible on the surface. Intermixed site deposits create multicomponent designations which are difficult to distinguish if not spatially discrete. Prehistoric and historic artifact collection can produce tenuous multicomponent designations. More importantly, sites in areas of poor visibility are less likely to produce diagnostic artifacts. This latter problem is more critical to prehistoric sites than historic sites in the project area. On prehistoric sites with low visibility, 1:4 sites produce culturally diagnostic artifacts compared to 1:2.8 sites with good visibility. This intersite difference in diagnostic artifact collection is especially important for further mitigation plans and is discussed elsewhere.

### Site Descriptions

A brief description of archaeological sites in the project area is presented below. The information is based on field observations, information from 7.5′ USGS series topographic maps, and analysis of the artifact inventories. When defining historic sites, early maps and deeds were consulted for locational and temporal indication. In many cases, no artifacts were recorded for a site. Artifacts were collected only if a site had potential diagnostic specimens and if material was found in shovel tests. Culturally diagnostic artifacts were the only class of artifacts utilized in the site selection process.

Table 2. Archaeological Sites, Burning Star #4, Northfield
Galum Creek, Perry County, Illinois

| SIUC# 21C4- | Distance From Nearest Perennial Stream (m) | Elev. (ft) | Soil Assn.* | On-Site Veg./ Veg. Within 1 Mi Radius** | Approx. Site Size ($M^2$) | Cultural Affiliation*** | Comments |
|---|---|---|---|---|---|---|---|
| 9 | 61 | 450 | D | II/I,IV | 100 | M | Stone box burial |
| 14 | 91 | 440 | F | I,II,IV | 24,480 | MA,MW-LW,W,EAgr | Tested November 1979 |
| 25 | 1,034 | 450 | D | II/I,III | 6,500 | LW | |
| 26 | 289 | 450 | D | II/I,III,IV | 4,200 | P | |
| 27 | 122 | 440 | F | I/II,III,IV | 6,600 | MW,EAgr | Tested August 1979 |
| 29 | 122 | 480 | A | IV/I,II,III | 11,500 | MA,LW | Tested July 1979, August 1979 |
| 34 | 106 | 450 | D | II/I,III,IV | - | W,A-I | |
| 35 | 76 | 450 | D | II/I,III,IV | 4,800 | LW | |
| 38 | 107 | 435 | F | I/II,III,IV | - | P,EAgr | |
| 39 | 61 | 430-440 | D | II/I,III,IV | - | P | |
| 40 | 380 | 450 | D | II/I,III | 59,664 | P | |

*Soil Association
A - Cisne-Hoyalton
B - Bluford Silt Loam
D - Hickory-Ava
F - Bonnie

**Vegetation
I - Bottomland
II - Slope Woodland
III - Post Oak Flat
IV - Prairie

***Cultural Affiliation
A-I Agricultural/Industrial
EA Early Archaic
EAgr Early Agricultural
H Historic
Ind Indeterminate
LA Late Archaic
LW Late Woodland
M Mississippian
MA Middle Archaic
MW Middle Woodland
P Prehistoric
Pi Pioneer
W Woodland

Table 2. (cont'd)

| SIUC# 21C4- | Distance From Nearest Perennial Stream (m) | Elev. (ft) | Soil Assn.* | On-Site Veg./ Veg. Within 1 Mi Radius** | Approx. Site Size ($M^2$) | Cultural Affiliation*** | Comments |
|---|---|---|---|---|---|---|---|
| 42 | 334 | 450 | D | II/I,III | 1,500 | P | |
| 43 | 182 | 450 | D | II/I,III,IV | - | P | |
| 44 | 68 | 450 | D | II/I,III,IV | - | MW | |
| 45 | 61 | 450 | D | II/I,III,IV | 2,800 | LA | |
| 46 | 334 | 450 | D | II/I,III | 10,500 | M | |
| 51 | 152 | 450 | D | II/I,III,IV | 3,000 | LA | |
| 52 | 31 | 440 | F | I/II,III,IV | 50 | P | |
| 53 | 638 | 440-450 | D | II/I,III | 7,875 | EA,MW | |
| 54 | 122 | 460 | D | II/I,III,IV | 2,000 | P | |
| 55 | 114 | 450 | D | II/I,III,IV | 16,900 | M-LA,M-LW | Tested July 1979, August 1979 |
| 56 | 182 | 450 | D,F | I,II/III,IV | 4,900 | EA | |
| 57 | 61 | 440 | D,F | I,II/III,IV | 600 | MA,LW | |
| 58 | 426 | 450 | D | II/I,III,IV | 500 | P | Tested August 1979 |
| 59 | 304 | 450 | D | II/I,III,IV | 600 | P | Tested August 1979 |
| 60 | 213 | 450 | D | II/I,III | 3,200 | LA | |
| 61 | 289 | 450 | D | II/I,III | 700 | P,EAgr | |

Table 2. (cont'd)

| SIUC# 21C4- | Distance From Nearest Perennial Stream (m) | Elev. (ft) | Soil Assn.* | On-Site Veg./ Veg. Within 1 Mi Radius** | Approx. Site Size ($M^2$) | Cultural Affiliation*** | Comments |
|---|---|---|---|---|---|---|---|
| 62 | 122 | 430 | F | I/II,III | - | P | |
| 63 | 61 | 430 | F | I/II,III | 125 | P | |
| 64 | 304 | 450 | D | II/I,IV | - | P | |
| 65 | 1,094 | 450 | A,D | II,IV/I,III | 4,000 | P | Tested August 1979 |
| 66 | 1,155 | 450 | A,D | II,IV/I,III | 400 | P | Tested August 1979 |
| 67 | 882 | 450 | A,D | II,IV/I,III | 600 | MA | |
| 68 | 730 | 450 | A,D | II,IV/I,III | 600 | P | |
| 69 | 517 | 450 | A,D | II,IV/I,III | 16,500 | MW | |
| 70 | 608 | 450-460 | D | II/I,III,IV | 600 | P | |
| 71 | 1,094 | 450 | D | II/I,III,IV | - | P | |
| 72H | 1,429 | 450-460 | A | IV/II,III | 1,400 | EAgr | |
| 73 | 730 | 450 | D | II/I,III | - | P | |
| 74 | 91 | 430 | D | II/I,III,IV | 600 | P | |
| 75 | 243 | 440 | D | II/I,III | - | P | |
| 76 | 1,520 | 450 | D | II/I,III | 13,590 | P | |
| 77 | 1,763 | 450 | D | II/I,III,IV | 5,850 | MA | |

Table 2. (cont'd)

| SIUC# 21C4- | Distance From Nearest Perennial Stream (m) | Elev. (ft) | Soil Assn.* | On-Site Veg./ Veg. Within 1 Mi Radius** | Approx. Site Size ($M^2$) | Cultural Affiliation*** | Comments |
|---|---|---|---|---|---|---|---|
| 78 | 1,946 | 450 | D | II/I,III,IV | 29,000 | P | |
| 79 | 1,490 | 450 | D | II/I,III,IV | 400 | P | |
| 80 | 1,976 | 430-440 | F | I/II,III | - | P | |
| 81 | 2,052 | 440 | D | II/I,III | 24,062 | P | |
| 82 | 76 | 430-440 | F | I/II,III,IV | 2,100 | P | |
| 83H | 137 | 430-440 | D | II/I,III,IV | 2,250 | EAgr | |
| 84 | 2,371 | 450-460 | D | II/I,III | 2,700 | P | |
| 85 | 289 | 470 | A,D | II,IV/I,III | 2,400 | LA | Tested August 1979 |
| 86H | 806 | 460 | D | II/I,III,IV | 19,500 | EAgr | |
| 87 | 942 | 450 | D | II/I,III,IV | 4,000 | LA,LW | Tested August 1979 |
| 88 | 638 | 440 | D | II/I,III,IV | 200 | P | |
| 89 | 578 | 440-450 | D | II/I,III,IV | 600 | P | |
| 90 | 547 | 440-450 | D | II/I,III,IV | 1,050 | MW | |
| 91 | 304 | 450 | D | II/I,III,IV | 2,000 | P | |
| 92 | 304 | 450 | A,D | II,IV/I | 1,850 | EA-LA | |
| 93H | 456 | 450-460 | A,D | II,IV/I | 22,000 | Pi(?) | |

Table 2. (cont'd)

| SIUC# 21C4- | Distance From Nearest Perennial Stream (m) | Elev. (ft) | Soil Assn.* | On-Site Veg./ Veg. Within 1 Mi Radius** | Approx. Site Size ($M^2$) | Cultural Affiliation*** | Comments |
|---|---|---|---|---|---|---|---|
| 95 | 350 | 450 | A | IV/I,II,III | 400 | P | |
| 96 | 334 | 450 | D | II/I,III,IV | 6,000 | P | |
| 97 | 61 | 470 | D | II/I,III,IV | 11,200 | P | Tested August 1979 |
| 98 | 243 | 470 | D | II/I,III,IV | 12,000 | P | Tested August 1979 |
| 99 | 2,067 | 450 | D | II/I,III | 1,750 | P | |
| 100 | 1,580 | 450 | D | II/I,III | 4,500 | P | |
| 101H | 1,915 | 450-460 | D | II/I,III,IV | 8,800 | EAgr | |
| 102 | 1,550 | 450 | D | II/III | 800 | P | |
| 103 | 1,277 | 440 | D | II/I,III | 125 | LW | |
| 104 | 198 | 460 | D | II/I,III,IV | 6,600 | P,A-I | |
| 105 | 1,125 | 440 | D | II/III | 600 | P | |
| 106 | 1,307 | 440 | D | II/III | 800 | P | |
| 107 | 274 | 440 | D | II/I,III | - | P | |
| 108 | 61 | 470 | D | II/I,III,IV | 2,800 | P | |
| 109 | 213 | 470 | A | IV/I,II,III | 1,600 | P | Tested October 1979 |
| 110 | 395 | 460 | D | II/I,III,IV | 1,200 | P,EAgr | |

Table 2. (cont'd)

| SIUC# 21C4- | Distance From Nearest Perennial Stream (m) | Elev. (ft) | Soil Assn.* | On-Site Veg./ Veg. Within 1 Mi Radius** | Approx. Site Size ($M^2$) | Cultural Affiliation*** | Comments |
|---|---|---|---|---|---|---|---|
| 111H | 228 | 460 | A | IV/I,II,III | 2,000 | Pi,EAgr,A-I | Huggins Cemetery |
| 112H | 274 | 460 | B | III/I,II,IV | 180 | H,Ind | Foundation |
| 113H | 152 | 470 | A | IV/I,II,III | 2,400 | A-I | Structures, out-buildings standing |
| 114 | 61 | 480 | A,D | II,IV/I,III | - | P | |
| 115 | 122 | 475 | A | IV/I,II,III | - | P | |
| 116 | 91 | 460 | D | II/I,III,IV | - | P | |
| 117 | 243 | 450 | D | II/I,IV | 2,400 | P | |
| 118 | 212 | 450 | D | II/I,IV | 4,400 | P | |
| 119 | 38 | 450 | D | II/I,III,IV | 5,600 | P | |
| 120 | 38 | 450 | D | II/I,IV | 3,200 | P | |
| 121 | 31 | 440 | D | II/I,IV | - | P | |
| 122 | 38 | 450 | D | II/I,IV | - | M | |
| 123 | 138 | 450 | D | II/I,IV | - | P | |
| 124 | 882 | 450 | D | II/I,III,IV | 6,600 | P,EAgr | |
| 125 | 820 | 450 | D | II/I,III,IV | - | P,Pi,EAgr | |
| 126H | 1,429 | 450 | D | II/I,III,IV | 10,000 | A-I | Structures, ruins |

Table 2. (cont'd)

| SIUC# 21C4- | Distance From Nearest Perennial Stream (m) | Elev. (ft) | Soil Assn.* | On-Site Veg./ Veg. Within 1 Mi Radius** | Approx. Site Size ($M^2$) | Cultural Affiliation*** | Comments |
|---|---|---|---|---|---|---|---|
| 127H | 1,398 | 450 | D | II/I,III,IV | 12,500 | EAgr,A-I | Structures, ruins |
| 128H | 122 | 450 | D | II/I,III,IV | - | A-I | Structure, ruins |
| 129 | 61 | 450 | D | II/I,III,IV | - | P | |
| 130 | 2,858 | 450 | D | II/I,III | 12,720 | P | |
| 131 | 2,797 | 450-460 | D | II/I,III,IV | - | MA | |
| 132 | 2,523 | 450 | D | II/I,III | 2,100 | P,EAgr | |
| 133 | 334 | 460 | A | IV/I,II,III | 14,400 | LW,EAgr | |
| 134 | 91 | 450 | D | II/I,III,IV | 1,000 | P,A-I | |
| 135H | 152 | 470 | D | II/I,III,IV | - | A-I | |
| 136 | 426 | 450 | D | II/I,III,IV | - | P | |
| 137 | 243 | 450 | D | II/I,III | - | P,H(?) | |
| 138H | 334 | 450 | D | II/I,III | 2,800 | EAgr,A-I | |
| 139H | 973 | 440 | B | III/I,II | 2,500 | EAgr | Structures, ruins |
| 140 | 137 | 450 | D | II/I,III,IV | - | P | |
| 141 | 61 | 440 | D | II/I,III,IV | - | P | |
| 142 | 243 | 450 | D | II/I,III,IV | - | P | |

Table 2. (cont'd)

| SIUC# 21C4- | Distance From Nearest Perennial Stream (m) | Elev. (ft) | Soil Assn.* | On-Site Veg./ Veg. Within 1 Mi Radius** | Approx. Site Size ($M^2$) | Cultural Affiliation*** | Comments |
|---|---|---|---|---|---|---|---|
| 143H | 790 | 460 | A | IV/I,II,III | 4,800 | EAgr | Foundations |
| 144 | 395 | 450 | A | IV/I,II,III | 3,000 | P | |
| 145 | 1,581 | 450 | D | II/I,III,IV | - | P | Isolated find |
| 146 | 1,277 | 450 | D | II/I,III | - | P | |
| 147 | 486 | 430-440 | F | I/II | 2,500 | P | One mound |
| 148 | 203 | 450 | D | II/I,III,IV | 4,200 | LW | |
| 149 | 243 | 450 | D | II/I,III,IV | 2,065 | P | |
| 150 | 365 | 450 | D | II/I,III | 3,200 | P | |
| 151H | 517 | 460 | A | IV/I,II,III | 400 | Pi,EAgr | Green/Sprague Cemetery |
| 152H | 2,584 | 450 | D | II/III,IV | 800 | Pi,EAgr,A-I | Gerstenschlager Cemetery |

21C4-9, Section 27, T5S, R4W

Topographic Setting: situated on a northeast oriented ridge spur 61 m from the west bank of Galum Creek near the confluence of Galum, Bonnie, and Rock Fork creeks at an elevation of 450 ft in the slope woodland zone.

Description: light scatter of ceramics, bone, shell, and chert with a heavy scatter of sandstone and limestone extending 100 $m^2$ in forest with 10% visibility.

Comments/Discussion: the artifact inventory consisted of 1 biface, 3 unmodified flakes, 1 miscellaneous clay, 3 unmodified bones, 2 unmodified shells, and 2 unmodified stones. Stone box burials indicated a Mississippian occupation. The site contained about 5 known burials which had been heavily vandalized by indiscriminate digging.

21C4-14, Section 34, T5S, R4W

Topographic Setting: located on a south oriented ridge spur from the east bank of Galum Creek near the confluence of Galum, Bonnie, and Rock Fork creeks at an elevation of 440 ft in the bottomland zone.

Description: medium to heavy scatter of ceramics, glacial cobbles, sandstone, limestone, and chert covering 24,480 $m^2$ in corn stubble with 40% visibility.

Comments/Discussion: the artifact inventory included 26 bifaces, 3 uniface/modified flakes, 7 unmodified flakes, 2 rim sherds, 2 body sherds, 3 modified stones, and 2 historic earthenware fragments. A multicomponent occupation was suggested, including Archaic and Woodland affiliations. Diagnostic artifacts were as follows:

Archaic
- 1 Expanded Stemmed (Plate 1A)

Middle Archaic
- 1 Godar (Plate 1B)

Late Archaic-Middle Woodland
- 3 Cypress, Variety A (Trotter and McNerney 1984) (Plate 1C-E) (McNerney 1975:38, Figure 2)

Woodland
- 4 Expanded stemmed (Plate 1H-K)

Late Woodland
- 3 Side and corner-notched arrow points (Plate 1L-N (Winters 1967:27, Figure 5[v-w])
- 11 Late Woodland cordmarked rims (Plate 1O-Y) (Perino 1973:106, Figure 56)

Diagnostic historic artifacts collected from the surface of this site included 1 fragment of earthenware with an identifiable maker's mark and 1 fragment of ironstone, partial maker's mark. The earthenware was produced by Alfred Meakin Company after 1881 in England (Plate 1Z, 1A[1]) (Hartman 1943:105). This material suggested an Early Agricultural period extending into the Agricultural/Industrial period.

21C4-25, Section 27, T5S, R4W

Topographic setting: located on an east oriented ridge top 120 m from the west bank of Bonnie Creek and 1,000 m from the east bank of Galum Creek at an elevation of 450 ft in the slope woodland zone.

Description: light scatter of chert and glacial cobbles encompassing 6,500 $m^2$ in a plowed field with 100% visibility.

Comments/Discussion: the artifact inventory contained 3 bifaces and 1 modified stone. Cultural affiliation is Middle to Late Woodland, including an expanded stemmed, reworked blade (Plate 1A[2]) and a Motley-like specimen (Plate 1A[3]).

21C4-26, Section 27, T5S, R4W

Topographic setting: located on a south oriented ridge top 289 m from the east bank of Galum Creek at an elevation of 450 ft in the slope woodland zone.

Description: light scatter of chert and glacial cobbles extending 4,200 $m^2$ in corn stubble with 30% visibility.

Comments/Discussion: the artifact inventory included one expanded stemmed biface, indicating a Woodland occupation (Plate 1A[4]).

21C4-27, Section 34, T5S, R4W

Topographic Setting: situated on a north oriented ridge spur 122 m south of the confluence of Rock Fork, Bonnie, and Galum creeks at an elevation of 440 ft in the bottomland zone.

Description: light scatter of chert and glacial cobbles covering 6,600 $m^2$ in a planted field with 50% to 100% visibility.

Comments/Discussion: the artifact inventory was composed of 3 bifaces, 1 unmodified flake, 1 body sherd, 5 earthenware fragments (one of which exhibited a maker's mark) (Plate 1A[6]), 1 stoneware fragment, 1 curved glass, and 2 identifiable metal. The site is a Middle Woodland occupation with 1 Crab Orchard body sherd (Plate 1A[5]) (Maxwell 1951:274-276). Diagnostic earthenware included multicolor, floral hand-painted ware. Historic cultural period is unknown.

21C4-29, Section 21, T5S, R4W

Topographic Setting: situated on a west oriented bluff approximtely 122 m from the east bank of Galum Creek at an elevation of 480 ft in the prairie zone.

Description: moderate scatter of sandstone, chert, and glacial cobbles encompassing 11,500 $m^2$ in a planted field with 100% visibility.

Comments/Discussion: the artifact inventory consisted of 11 bifaces, 1 unmodified flake, 1 rim sherd, 5 body sherds, and 1 unmodified stone. An Early Archaic component was represented by one St. Albans type blade (Chapman 1975) (Plate 2A-B). Lowe flared base types (Plate 2C- D) and cordmarked pottery reflect a Late Woodland occupation.

21C4-34, Section 34, T5S, R4W

Topographic Setting: located on a north oriented bluff 106 m from the west bank of Galum Creek near the confluence of Galum, Bonnie, and Rock Fork creeks at an elevation of 450 ft in the slope woodland zone.

Description: moderate scatter of chert and sandstone and a light scatter of ceramics, glacial cobbles, and historic material in dense brush with 10% visibility; site size is indeterminate.

Comments/Discussion: the artifact inventory included 3 bifaces, 4 unmodified flakes, 1 modified stone, 1 porcelain and earthenware, and 2 bottles (1 intact and 1 fragmented). The prehistoric component is Woodland, identified by 1 Motley-like specimen (Plate 2F). Shovel testing recovered 2 identifiable bottle fragments, including a Drey Perfect Mason jar, ca. 1906-1925 (Plate 2H) (Toulouse 1971), and 1 Fletchers Castoria patented medicine jar, ca. post-1920 (Plate 2G) (Baldwin 1973:184). These historic artifacts indicate an Agricultural/Industrial time period.

21C4-35, Section 34, T5S, R4W

Topographic Setting: situated on a northeast oriented ridge spur 76 m from the west bank of Galum Creek near the confluence of Galum, Rock Fork, and Bonnie creeks at an elevation of 450 ft in the slope woodland zone.

Description: moderate scatter of ceramics, sandstone, and glacial cobbles and a heavy scatter of chert encompassing 4,800 $m^2$ in both forest and brush with 10% visibility.

Comments/Discussion: the artifact inventory included 1 biface, 5 uniface/modified flakes, 6 unmodified flakes, 1 rim sherd, 2 body sherds, 1 miscellaneous clay, 1 modified stone, and 3 unmodified stones. The occupation was Late Woodland, indicated by 2 probable Raymond or Dillinger cordmarked body sherds.

21C4-38, Section 34, T5S, R4W

Topographic Setting: situated on a south oriented ridge spur 107 m from the east bank of Galum Creek at an elevation of 435 ft in the slope woodland zone.

Description: light scatter of sandstone, glacial cobbles, and historic debris in a planted field with 10% visibility; site size indeterminate.

Comments/Discussion: the artifact inventory consisted of one applied lip bottle neck post-dating 1850 (Lorrain 1968:40). This indicated an occupation during the Early Agricultural period. Prehistoric materials were not collected from the site.

21C4-39, Section 34, T5S, R4W

Topographic Setting: located on a south oriented ridge spur 61 m from the east bank of Galum Creek near the confluence of Galum, Bonnie, and Rock Fork creeks at an elevation between 430 ft and 440 ft in the bottomland zone.

Description: shovel testing revealed only one chert item in dense brush cover with 15% visibility; site size indeterminate.

Comments/Discussion: the artifact inventory included one unmodified flake. Cultural affiliation is unknown.

21C4-40, Section 34, T5S, R4W

Topographic Setting: situated on a ridge top 380 m from the east bank of Galum Creek near the confluence of Galum, Bonnie, and Rock Fork creeks at an elevation of 450 ft in the slope woodland zone.

Description: moderate scatter of chert, sandstone, and glacial cobbles covering 59,664 $m^2$ in a planted field with 30% visibility.

Comments/Discussion: the artifact inventory consisted of one biface. Cultural affiliation unknown.

21C4-42, Section 27, T5S, R4W

Topographic Setting: situated on a south oriented ridge spur 334 m from the east bank of Galum Creek at an elevation of 450 ft in the slope woodland zone.

Description: light scatter of chert and glacial cobbles encompassing 1,500 $m^2$ in corn stubble with 20% visibility.

Comments/Discussion: the artifact inventory contained one biface. Cultural affiliation unknown.

21C4-43, Section 28, T5S,R4W

Topographic Setting: located on an east oriented ridge spur 182 m from the west bank of Galum Creek at an elevation of 450 ft in the slope woodland zone.

Description: light scatter of sandstone, glacial cobbles, and chert in a disced field with 30% visibility; site size indeterminate.

Comments/Discussion: the artifact inventory included 1 uniface, 1 modified flake, and 6 unmodified flakes. Cultural affiliation unknown.

21C4-44, Section 28, T5S, R4W

Topographic Setting: located on an east oriented ridge top 68 m from the west bank of Galum Creek at an elevation of 450 ft in the slope woodland zone.

Description: light to moderate scatter of chert, sandstone, and glacial cobbles in a disced field with 30% visibility; site size indeterminate.

Comments/Discussion: the artifact inventory consisted of 1 core, 4 bifaces, 5 uniface/modified flakes, and 34 unmodified flakes. A Middle Woodland component is indicated by 1 corner-notched, barbed, expanding stemmed blade (Plate 2I) (McNerney 1975:38, Figure 2). This tool is manufactured from an uncommon chert type known as Fern Glen (Fortier et al. 1983:319).

21C4-45, Section 21, T5S, R4W

Topographic Setting: located on a north oriented ridge spur 61 m from the west bank of Galum Creek at an elevation of 450 ft in the slope woodland zone.

Description: moderate scatter of chert and glacial cobbles covering 2,800 $m^2$ in a planted field with 100% visibility.

Comments/Discussion: the artifact inventory consisted oftwo bifaces. One Karnak stemmed indicated a Late Archaic occupation (Plate 2J) (Winters 1967:25, Figure 4[G-H]).

21C4-46, Section 27, T5S, R4W

Topographic Setting: situated on a ridge top 334 m from the east bank of Galum Creek near the confluence of Galum, Bonnie, and Rock Fork creeks at an elevation of 450 ft in the slope woodland zone.

Description: light scatter of chert and glacial cobbles encompassing 10,500 $m^2$ in a disced field with 80% visibility.

Comments/Discussion: the artifact inventory consisted of 1 biface, 1 rim sherd, 3 body sherds, and 1 modified stone. A Late Woodland

component is indicated by 3 Raymond or Dillinger cordmarked body sherds. A Mississippian component is indicated by 1 shell-tempered rim (Plate 2K).

21C4-51, Section 21, T5S, R4W

Topographic Setting: located on a southeast oriented ridge top 152 m from the west bank of Galum Creek at an elevation of 450 ft in the bottomland zone.

Description: light scatter of chert and glacial cobbles covering 3,000 $m^2$ in corn stubble with 20% visibility.

Comments/Discussion: a single biface is identified as a Late Archaic specimen similar to Saratoga broad-blade (Plate 2L) (Winters 1967:25, Figure 4[F]).

21C4-52, Section 21, T5S, R4W

Topographic Setting: located in the floodplain 31 m from the east bank of Galum Creek at an elevation of 440 ft in the bottomland zone.

Description: very light scatter of sandstone and chert covering 50 $m^2$ in corn stubble with 30% visibility.

Comments/Discussion: Artifacts were not collected from the site.

21C4-53, Section 35, T5S, R4W

Topographic Setting: situated on a west oriented ridge spur 638 m from the east bank of Galum Creek at an elevation between 440 ft and 450 ft in the slope woodland zone.

Description: light scatter of chert flakes and glacial cobbles within a 7,875 $m^2$ area in corn stubble with 50% visibility.

Comments/Discussion: the artifact inventory consisted of 1 unmodified chert, 2 bifaces, and 2 unmodified flakes. The site was multicomponent, with Archaic and Woodland occupations. The diagnostic items were as follows: Early Archaic, 1 Thebes (Plate 2M) (Luchterhand 1970:31, Figure 9); Middle Woodland, 1 corner-notched, barbed, (Plate 2N) (Munson and Harn 1971:103, Figure 18).

21C4-54, Section 21, T5S, R4W

Topographic setting: situated on an east oriented ridge spur 122 m from the west bank of Galum Creek at an elevation of 460 ft in the slope woodland zone.

Description: light to moderate scatter of sandstone, chert, and glacial cobbles covering 2,000 $m^2$ in a plowed field with 100% visibility.

Comments/Discussion: artifacts were not collected from the site.

21C4-55, Section 21, T5S, R4W

Topographic Setting: located on a southwest oriented ridge spur 114 m from the east bank of Galum Creek at an elevation of 450 ft in the slope woodland zone.

Description: moderate scatter of chert and glacial cobbles encompassing 16,900 $m^2$ in a planted field with 100% visibility.

Comments/Discussion: Nine diagnostic bifacial blades indicate multiple occupations, including Archaic and Woodland. The diagnostic artifacts include: Middle Archaic, 3 shallow side-notched forms similar to specimens at Modoc Rock Shelter (Plate 2 O-Q) (Fowler 1959:37, Figure 14); Late Archaic, 2 Saratoga broad blade (Plate 2R-S); Middle Woodland, 1 Affinis Snyders (Plate 2T) (Winters 1967:27, Figure 5[F]); Late Woodland, 1 Lowe flared base (Plate 2W), 1 Schilds (Plate 2U), and 1 shallow side-notched (Plate 2V).

21C4-56, Section 21, T5S, R4W

Topographic Setting: located on a west oriented ridge spur 182 m from the east bank of Galum Creek at an elevation of 450 ft in the slope woodland zone.

Description: moderate scatter of sandstone, glacial cobbles, and chert covering 4,900 $m^2$ in a plowed field with 100% visibility.

Comments/Discussion: the artifact inventory included 1 biface and 1 modified flake. An Early Archaic component is indicated by the presence of a reworked Hardin barbed projectile point/knife (Plate 2X) (Luchterhand 1970:27-28, Figure 6).

21C4-57, Section 21, T5S, R4W

Topographic Setting: situated on a west oriented ridge spur 61 m from the east bank of Galum Creek at an elevation of 440 ft in the slope woodland zone.

Description: light scatter of chert and glacial cobbles extending 600 $m^2$ in both a plowed field and corn stubble with 30% visibility.

Comments/Discussion: the artifact inventory contained 5 bifaces representing both Archaic and Woodland occupations. The diagnostic specimens included 1 side-notched broad blade form (Plate 2Y) and 1 Godar, Middle Archaic (Plate 3A), and 1 Lowe flared base, Late Woodland (Plate 3B).

21C4-58, Section 21, T5S, R4W

Topographic Setting: located on a northwest oriented ridge spur 426 m from the west bank of Galum Creek at an elevation of 450 ft in the slope woodland zone.

Description: light scatter of sandstone, glacial cobbles, and chert extending 500 $m^2$ in a plowed field with 100% visibility.

Comments/Discussion: the artifact inventory included one uniface of unknown cultural affiliation.

21C4-59, Section 21, T5S, R4W

Topographic Setting: located on a northwest oriented ridge spur 304 m from the west bank of Galum Creek at an elevation of 450 ft in the slope woodland zone.

Description: light scatter of chert and glacial cobbles covering 600 $m^2$ in a plowed field with 100% visibility.

Comments/Discussion: artifacts were not collected from the site.

21C4-60, Section 27, T5S, R4W

Topographic Setting: situated on a southwest oriented ridge spur 213 m from the east bank of Galum Creek at an elevation of 450 ft in the slope woodland zone.

Description: light to moderate scatter of sandstone, chert, and glacial cobbles covering 3,200 $m^2$ in a planted field with 100% visibility.

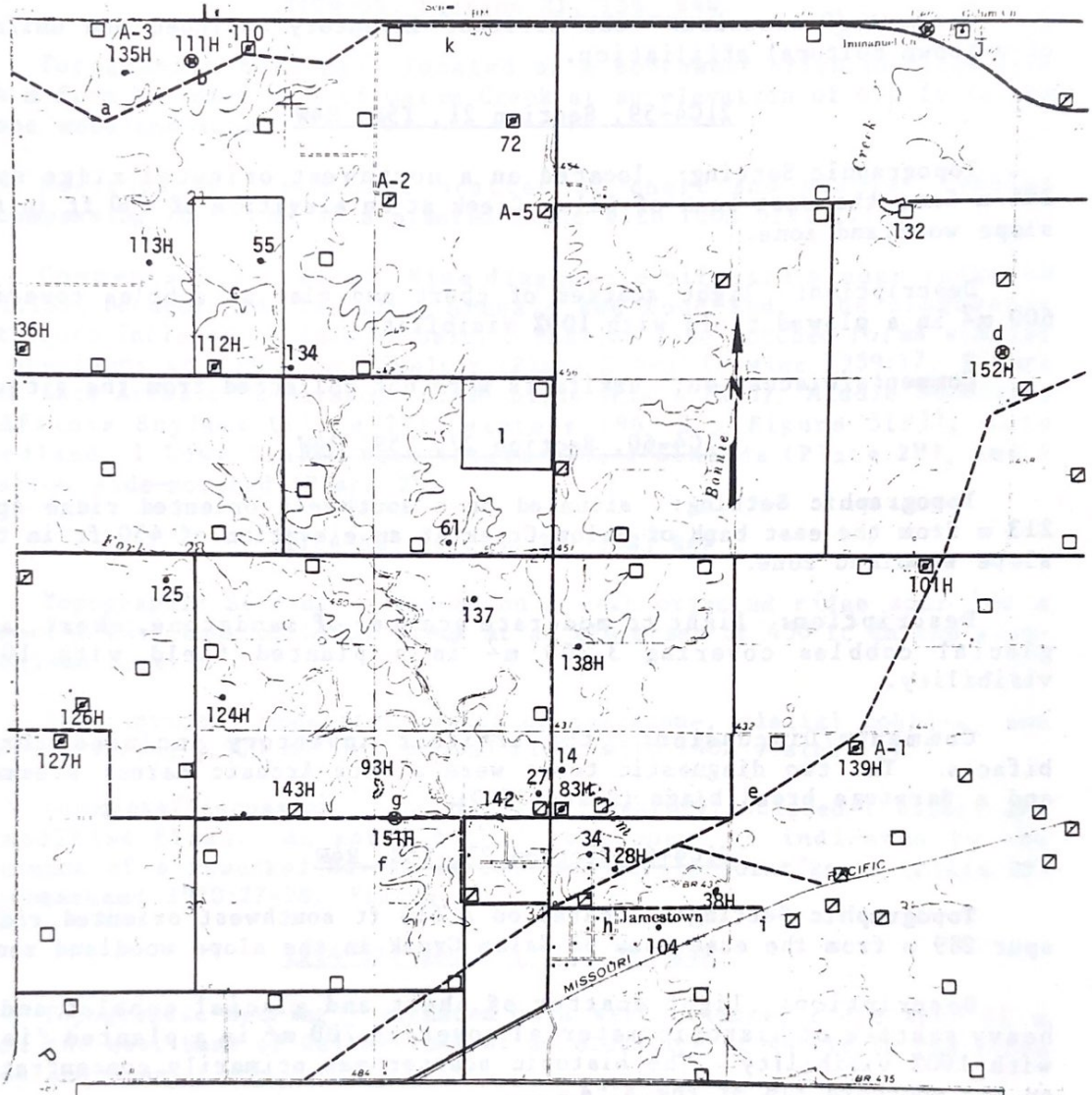
Comments/Discussion: the artifact inventory included three bifaces. The two diagnostic tools were a Late Archaic Karnak stemmed and a Saratoga broad blade (Plate 3C-D).

21C4-61 Section 27, T5S, R4W

Topographic Setting: located on a 450 ft southwest oriented ridge spur 289 m from the east bank of Galum Creek in the slope woodland zone.

Description: light scatter of chert and glacial cobbles and a heavy scatter of historic material covering 700 $m^2$ in a planted field with 100% visibility. The historic scatter was primarily concentrated on the southern tip of the site.

Comments/Discussion: the artifact inventory consisted of 5 earthenware fragments, 1 curved glass, and 4 bottle fragments. A possible well or cistern was represented by a circular depression obscured by dense grass cover. Bottle fragments were identifiable as 1 Raleigh patented medicine bottle (machine made) and 1 applied lip bottle (Lorrain 1968:40-43). This material suggests a late 1800 or early 1900 occupation (Early Agricultural). The 1902 plat map established that a homestead is located east of this ridge (Map 7).




MAP 7

Historic Sites in the Upper Galum Study Area

- • Historical Archaeological Site
- □ Pre-1902 (Plat Map)
- ▨ Pre-1920 (Plat Map)
- ⊗ Cemetery
- ——— Pre-1902 Road (Plat Map)
- ——— Pre-1876 Road (1876 Atlas)
- a. Huggin's Bridge
- b. Huggin's Cemetery
- c. Mathew Vann (First Purchase 1818)
- d. Gerstenschlager Cemetery
- e. Chester Road (1876 Atlas)
- f. Greens Mill (1839)
- g. Greens Cemetery
- h. Jamestown (1920-1970)
- i. Coal Shafts (1872)
- j. Galum Church (1849)
- k. Lost Prairie School (1835)
- l. William M. Blair (Last Purchase 1854)

21C4-62, Section 27, T5S, R4W

Topographic Setting: located in the floodplain 122 m from the east bank of Galum Creek at an elevation of 430 ft in the bottomland zone.

Description: light scatter of chert and glacial cobbles in corn stubble with 30% visibility; site size indeterminate.

Comments/Discussion: the artifact inventory totaled one biface of unknown cultural affiliation.

21C4-63, Section 27, T5S, R4W

Topographic Setting: situated in the floodplain 61 m from the east bank of Galum Creek at an elevation of 430 ft in the bottomland zone.

Description: very light scatter of glacial cobbles and chert flakes dispersed over a 125 $m^2$ area in stubble with 30% visibility.

Comments/Discussion: artifacts were not collected from the site.

21C4-64, Section 28, T5S, R4W

Topographic setting: located on a 450 ft southwest oriented ridge spur 160 m from the east bank of Rock Fork Creek and 304 m from the west bank of Galum Creek in the slope woodland zone.

Description: light scatter of chert in dense brush cover with 10% visibility; site size indeterminate.

Comments/Discussion: the artifact inventory included one biface of unknown cultural affiliation.

21C4-65, Section 33, T5S, R4W

Topographic Setting: situated on a 450 ft west oriented ridge spur 480 m from the west bank of Rock Fork Creek and 1,094 m from the west bank of Galum Creek in the prairie zone.

Description: light scatter of chert and glacial cobbles covering 4,000 $m^2$ in stubble with 20% visibility.

Comments/Discussion: artifacts were not collected from the site.

21C4-66, Section 33, T5S, R4W

Topographic Setting: situated on a southwest oriented ridge spur 65 m from the west bank of Rock Fork Creek and 1,155 m from the west bank of Galum Creek at an elevation of 450 ft in the prairie/slope woodland zone.

Description: light scatter of chert and glacial cobbles encompassing 400 $m^2$ in stubble with 20% visibility.

Comments/Discussion: artifacts were not collected from the site.

21C4-67, Section 33, T5S, R4W

Topographic Setting: located on a 450 ft northwest oriented ridge spur 400 m southwest of Rock Fork Creek in the prairie zone.

Description: light scatter of chert and glacial cobbles covering 600 $m^2$ in stubble with 20% visibility.

Comments/Discussion: the artifact inventory included a basal section of a Godar biface indicating a Middle Archaic occupation (Plate 3E).

21C4-68, Section 33, T5S, R4W

Topographic Setting: located on a 450 ft west oriented ridge spur 300 m from the west bank of Rock Fork Creek and 730 m from the west bank of Galum Creek in the prairie/slope woodland zone.

Description: light scatter of chert and glacial cobbles encompassing 600 $m^2$ in stubble with 20% visibility.

Comments/Discussion: the artifact inventory included one biface of unknown cultural affiliation.

21C4-69, Section 28, T5S, R4W

Topographic Setting: situated on a north oriented ridge spur 130 m from the west bank of Rock Fork Creek and 517 m from the west bank of Galum Creek at an elevation of 450 ft in the prairie/slope woodland zone.

Description: moderate scatter of chert and glacial cobbles covering 16,500 $m^2$ in a plowed field with 100% visibility.

Comments/Discussion: the artifact inventory included 6 bifaces, 1 uniface, and 2 modified stones. The site contained a Middle Woodland component represented by 1 Dickson broad blade (Plate 3H) (Winters 1967:27, Figure 5[B-D]), 1 Cypress, variety A (Plate 3G) (Trotter and McNerney 1984), and 1 wide, side-notched form similar to Middle Woodland specimens in the Illinois Valley (Plate 3F) (White 1968).

21C4-70, Section 22, T5S, R4W

Topographic Setting: located on a ridge top at an elevation between 450-460 ft approximately 608 m from the east bank of Galum Creek in the slope woodland zone.

Description: light scatter of glacial cobbles and chert covering 600 $m^2$ in a planted field with 100% visibility.

Comments/Discussion: artifacts were not collected from the site.

21C4-71, Section 28, T5S, R4W

Topographic Setting: located on a ridge top 60 m from the west bank of Rock Fork Creek and 1,095 m from the west bank of Galum Creek at an elevation of 450 ft in the slope woodland zone.

Description: one chert item in a planted field with 0% visibility; site size indeterminate.

Comments/Discussion: artifacts were not collected from the site.

21C4-72H, Section 22, T5S, R4W

Topographic Setting: situated on a ridge top at an elevation between 450 ft to 460 ft and 1,429 m from the east bank of Galum Creek in the prairie zone.

Description: heavy scatter of historic debris covering 1,400 $m^2$ in a plowed field with 100% visibility.

Comments/Discussion: the artifact inventory contained 3 porcelain and earthenware fragments, 4 stoneware fragments, and 5 bottle fragments. Two bottle fragments were identified fragments from beer bottles manufactured by Adolphus Busch Glass manufacturer. These bottles were assigned a production date between 1886-1928 (Plate 3I-J). Plat maps indicated a historic homestead site predating 1920 (Map 7). All indications suggested the site was occupied during the Early Agricultural period.

21C4-73, Section 27, T5S, R4W

Topographic Setting: situated on a 450 ft east oriented ridge spur 200 m from the west bank of Bonnie Creek and 730 m from the east bank of Galum Creek in the slope woodland zone.

Description: light scatter of glacial cobbles, sandstone, and chert in a disced field with 50% visibility; site size indeterminate.

Comments/Discussion: artifacts were not collected from the site.

21C4-74, Section 34, T5S, R4W

Topographic Setting: located on a southwest oriented ridge spur 430 ft in elevation and 91 m from the east bank of Galum Creek near the confluence of Galum, Rock Fork, and Bonnie creeks in the slope woodland zone.

Description: light scatter of chert encompassing 600 $m^2$ in weeds and a planted field with 10% to 20% visibility.

Comments/Discussion: artifacts were not collected from the site.

21C4-75, Section 34, T5S, R4W

Topographic Setting: located on a 440 ft northwest oriented ridge spur about 243 m from the east bank of Galum Creek in the slope woodland zone.

Description: isolated find in a planted field with 20% visibility.

Comments/Discussion: the artifact inventory consisted of one core of unknown cultural affiliation.

21C4-76, Section 26, T5S, R4W

Topographic Setting: situated on a ridge top 600 m from the east bank of Bonnie Creek and 1,520 m from the east bank of Galum Creek at an elevation of 450 ft in the slope woodland zone.

Description: light scatter of glacial cobbles and chert encompassing 13,590 $^2$ in a planted field with 50% to 100% visibility.

Comments/Discussion: the artifact inventory consisted of 1 unmodified chert, 2 cores, 1 biface, 2 unmodified flakes, and 2 modified stones. Cultural affiliation is unknown.

21C4-77, Section 22, T5S, R4W

Topographic Setting: located on a 450 ft southeast oriented ridge spur 330 m from the west bank of Bonnie Creek and 1,763 m from the east bank of Galum Creek in the slope woodland zone.

Description: moderate scatter of chert and glacial cobbles covering 5,850 $m^2$ in a planted field with 100% visibility.

Comments/Discussion: the artifact inventory included one shallow side-notched Middle Archaic biface (Plate 3K).

21C4-78, Section 22, T5S, R4W

Topographic Setting: situated on a 450 ft southeast oriented ridge spur 300 m from the west bank of Bonnie Creek and 1,946 m from the east bank of Galum Creek in the slope woodland zone.

Description: moderate scatter of sandstone, glacial cobbles, and chert covering 29,000 $m^2$ in a planted field with 100% visibility.

Comments/Discussion: the artifact inventory included 1 biface, 1 uniface, and 2 modified flakes. Cultural affiliation unknown.

21C4-79, Section 22, T5S, R4W

Topographic Setting: located on a 450 ft southeast oriented ridge spur 630 m from the west bank of Bonnie Creek and 1,490 m from the east bank of Galum Creek in the slope woodland zone.

Description: light scatter of chert and glacial cobbles encompassing 400 $m^2$ in a planted field with 100% visibility.

Comments/Discussion: artifacts were not collected from the site.

21C4-80, Section 23, T5S, R4W

Topographic Setting: located in the floodplain 30 m from the east bank of Bonnie Creek at an elevation between 430-440 ft and 1,976 m from the east bank of Galum Creek in the bottomland zone.

Description: light scatter of chert in a planted field with 100% visibility; site size indeterminate.

Comments/Discussion: the artifact inventory consisted of one uniface of unknown cultural affiliation.

21C4-81, Section 23, T5S, R4W

Topographic setting: located on a 450 ft west oriented ridge spur 240 m from the east bank of Bonnie Creek and 2,052 m from the east bank of Galum Creek in the slope woodland zone.

Description: light scatter of glacial cobbles and chert covering 24,062 $m^2$ in a planted field with 100% visibility.

Comments/Discussion: the artifact inventory included 1 core, 2 unifaces, 1 modified chunk, 4 modified flakes, 4 modified stones, and 7 unmodified stones. Cultural affiliation was indeterminate.

21C4-82, Section 34, T5S, R4W

Topographic Setting: located on a north oriented ridge spur ranging in elevation between 430-440 ft and 75 m from the west bank of Galum Creek near the confluence of Galum, Bonnie, and Rock Fork creeks in the bottomland zone.

Description: heavy scatter of glacial cobbles and chert covering 2,100 $m^2$ in a disced field with 80% visibility.

Comments/Discussion: the artifact inventory included 6 bifaces, 6 unifaces, 8 unmodified flakes, 6 body sherds, 1 fragmented sherd, and 1 modified stone. A Late Woodland component is indicated by 6 Raymond or Dillinger cordmarked body sherds.

21C4-83H, Section 34, T5S, R4W

Topographic Setting: situated on a north oriented ridge spur 136 m from the west bank of Galum Creek near the confluence of Galum, Bonnie, and Rock Fork creeks at an elevation between 430-440 ft in the slope woodland zone.

Description: heavy surface scatter of historic material covering 2,250 $m^2$ in a disced field with 80% visibility.

Comments/Discussion: the artifact inventory incorporated 1 uniface, 4 earthenware and porcelain fragments, 4 stoneware fragments, 1 miscellaneous ceramic, 1 fragmented glass, 6 curved glass, 10 bottle fragments, 1 unmodified shell, and 1 button. Three applied lip bottle fragments suggested a time range between 1850-1920, and 1 semiautomatically produced bottle indicated a short pre-1920 span (Lorrain 1968:42). Two fragments of stoneware further substantiated this date (Plate 3L-M). The site was tentatively identified as a pre-1920 historic occupation inhabited during the Early Agricultural period.

21C4-84, Section 23, T5S, R4W

Topographic Setting: located on a west oriented ridge spur 500 m from the east bank of Bonnie Creek and 2,370 m from the east bank of Galum Creek at an elevation between 450-460 ft in the slope woodland zone.

Description: light scatter of chert and glacial cobbles encompassing 2,700 $m^2$ in a planted field with 100% visibility.

Comments/Discussion: the artifact inventory consisted of 1 modified stone and 2 unmodified stones with unknown cultural affiliation.

21C4-85, Section 21, T5S, R4W

Topographic Setting: located on a 470 ft ridge top 289 m from the west bank of Galum Creek in the prairie zone.

Description: light scatter of glacial cobbles and chert tools covering 5,000 $m^2$ in a planted field with 100% visibility.

Comments/Discussion: the artifact inventory totaled one biface representing a Late Archaic occupation illustrated by one Marcos corner-notched form (Plate 3N) (Winters 1967:25, Figure 4I).

21C4-86H, Section 21, T5S, R4W

Topographic Setting; situated on a 460 ft ridge top 45 m from the east bank of Rock Fork Creek and 806 m from the west bank of Galum Creek in the prairie zone.

Description: heavy scatter of historic ceramics, glass, metal, brick, and limestone covering 19,500 $m^2$ in a planted field with 100% visibility.

Comments/Discussion: the artifact inventory included one bottle fragment. The bottle had an applied lip representative of a manufacturing method dating between 1850-1920. Also, the 1920 plat map

contained a historic structure in the site area (Map 7). Temporally, the site was assigned to the Early Agricultural period.

21C4-87, Section 28, T5S, R4W

Topographic Setting: located on a 450 ft southeast oriented ridge spur 120 m from the east bank of Rock Fork Creek and 942 m from the west bank of Galum Creek in the slope woodland zone.

Description: light scatter of chert flakes and glacial cobbles located within 4,000 $m^2$ with 100% visibility in a planted field.

Comments/Discussion: the artifact inventory included 1 biface representing a Late Archaic occupation, identified as a Saratoga broad blade (Plate 30) and 1 biface representing a Late Woodland component, identified as a Mounds Group IV variant (Plate 3P) (Winters 1967:27).

21C4-88, Section 28, T5S, R4W

Topographic Setting: located on a 440 ft south oriented ridge spur 150 m from the east bank of Rock Fork Creek and 638 m from the west bank of Galum Creek in the slope woodland zone.

Description: light scatter of glacial cobbles and chert flakes covering 200 $m^2$ in a planted field with 100% visibility.

Comments/Discussion: artifacts were not collected from the site.

21C4-89, Section 28, T5S, R4W

Topographic Setting: situated on a 440 ft south oriented ridge spur 180 m from the east bank of Rock Fork Creek and 578 m from the west bank of Galum Creek in the slope woodland zone.

Description: light scatter of chert flakes and glacial cobbles encompassing 600 $m^2$ in a planted field with 100% visibility.

Comments/Discussion: the artifact inventory totaled one biface of unknown cultural affiliation.

21C4-90, Section 28, T5S, R4W

Topographic Setting: located on a 440-450 ft southwest oriented ridge spur 180 m from the east bank of Rock Fork Creek and 547 m from the west bank of Galum Creek in the slope woodland zone.

Description: light scatter of sandstone chert and glacial cobbles incorporated within 105 $m^2$ in a planted field with 100% visibility.

Comments/Discussion: the artifact inventory included three bifaces. One Cypress, variety A (Plate 3Q) (Trotter and McNerney 1984) indicated an Early Archaic-Middle Woodland occupation.

21C4-91, Section 28, T5S, R4W

Topographic Setting: situated on a 450 ft north oriented ridge spur 304 m from the west bank of Galum Creek in the slope woodland zone.

Description: light scatter of glacial cobbles and chert covering 2,000 $m^2$ in a planted field with 100% visibility.

Comments/Discussion: the artifact inventory was comprised of one modified stone of unknown cultural affiliation.

21C4-92, Section 34, T5S, R4W

Topographic Setting: situated on a 450 ft north oriented ridge spur 130 m from the west bank of Rock Fork Creek and 304 m from the west bank of Galum Creek in the slope woodland/prairie zone near the confluence of Galum, Bonnie, and Rock Fork creeks.

Description: light scatter of glacial cobbles and chert encompassing 1,850 $m^2$ in a planted field with 100% visibility.

Comments/Discussion: the artifact inventory consisted of 4 bifaces and 1 uniface. The site was a multicomponent Archaic occupation including the following diagnostic tools: Early Archaic, 1 St. Charles-like form (Plate 3R) (Luchterhand 1970:32, Figure 10); Middle Archaic, 1 Godar biface (Plate 3S); and Late Archaic, 1 Saratoga broad blade (Plate 3T).

21C4-93H, Section 34, T5S, R4W

Topographic Setting: located on a ridge top at an elevation between 450-460 ft, 260 m from the west bank of Rock Fork Creek and 456 m from the west bank of Galum Creek in the slope woodland/prairie zones near the confluence of Galum, Bonnie, and Rock Fork creeks.

Description: heavy historic scatter of brick, glass, and ceramics covering 22,000 $m^2$ in a planted field with 100% visibility.

Comments/Discussion: artifacts were not collected from the site. At the time of survey, a hedge bordered the west edge of the site. The site is near the Chester Road, which was traveled in 1876, and a cemetery (21C4-151H) used at least by 1824 (Map 7). Structures were not identified on the 1920 plat map to verify this site location. Historical documentation, however, indicated that this property was purchased by Averill Sprague in the 1940s. All indications suggested this site was occupied by the mid-1800s, the Early Agricultural period.

21C4-95, Section 34, T5S, R4W

Topographic Setting: located on a north oriented ridge spur 120 m from the east bank of Rock Fork Creek and 350 m from the west bank of Galum Creek at an elevation of 450 ft in the prairie zone near the confluence of Galum, Bonnie, and Rock Fork creeks.

Description: light scatter of chert and glacial cobbles distributed within 400 $m^2$ in a planted field with 100% visibility.

Comments/Discussion: artifacts were not collected from the site.

21C4-96, Section 27, T5S, R4W

Topographic Setting: located on a northwest oriented ridge spur 334 m from the east bank of Galum Creek at an elevation of 450 ft in the slope woodland zone.

Description: light to moderate scatter of sandstone, limestone, glacial cobbles, and chert covering 6,000 $m^2$ in a planted field with 100% visibility.

Comments/Discussion: artifacts were not collected from the site.

21C4-97, Section 21, T5S, R4W

Topographic Setting: situated on an east oriented bluff of Galum Creek 61 m from the west bank at an elevation of 470 ft in the slope woodland zone.

Description: moderate scatter of sandstone, glacial cobbles, and chert encompassing 11,200 $m^2$ in stubble with 30% to 40% visibility.

Comments/Discussion: artifacts were not collected from the site.

21C4-98, Section 21, T5S, R4W

Topographic Setting: located on a north oriented bluff of Galum Creek 243 m from the west bank at an elevation of 470 ft in the slope woodland zone.

Description: moderate to heavy scatter of sandstone and glacial cobbles and a light scatter of chert covering 12,000 $m^2$ in stubble with 30% to 50% visibility.

Comments/Discussion: artifacts were not collected from the site.

21C4-99, Section 26, T5S, R4W

Topographic Setting: located on a 450 ft northeast oriented ridge spur 424 m from the east bank of Bonnie Creek and 2,067 m from the east bank of Galum Creek in the slope woodland zone.

Description: light to moderate scatter of glacial cobbles and chert encompassing 1,750 $m^2$ in stubble with 0% to 50% visibility.

Comments/Discussion: the artifact inventory included one modified stone of unknown cultural affiliation.

21C4-100, Section 26, T5S, R4W

Topographic Setting: located on a 450 ft west oriented ridge spur 515 m from the east bank of Bonnie Creek and 1,580 m from the east bank of Galum Creek in the slope woodland zone.

Description: light scatter of sandstone, glacial cobbles, and chert distributed within 4,500 $m^2$ in stubble with 30% visibility.

Comments/Discussion: artifacts were not collected from the site.

21C4-101H, Section 26, T5S, R4W

Topographic Setting: located on a ridge top 1,000 m from the east bank of Bonnie Creek and 1,915 m from the east bank of Galum Creek at an elevation of 450-460 ft in the post oak flats zone.

Description: moderate scatter of historic material covering 8,800 $m^2$ in stubble with 30% visibility.

Comments/Discussion: the artifact inventory consisted of 1 earthenware fragment, 2 curved glass, and 2 bottle fragments. Two machine manufactured bottles, 1 blue edge earthenware fragment, and 1 transparent canning liner suggested a time span between the 1850s and 1900s, Early Agricultural period (McKay 1979:46; Price 1979:18). The 1920 plat map contained a structure at this location. Also, an 1876 atlas showed a road extending northeast-southwest to the west of the site (Map 7).

21C4-102, Section 26, T5S, R4W

Topographic Setting: situated on a 450 ft southeast oriented ridge spur 1,060 m from the east bank of Bonnie Creek and 1,277 m from the east bank of Galum Creek in the post oak flats/slope woodland zones.

Description: light scatter of sandstone, glacial cobbles, and chert covering 800 $m^2$ in stubble with 50% visibility.

Comments/Discussion: the artifact inventory included one biface of unknown cultural affiliation.

21C4-103, Section 26, T5S, R4W

Topographic Setting: situated on a ridge top 575 m from the east bank of Bonnie Creek and 1,277 m from the east bank of Galum Creek at an elevation of 440 ft in the slope woodland zone.

Description: very light scatter of glacial cobbles and chert covering 125 $m^2$ in stubble with 50% visibility.

Comments/Discussion: the artifact inventory consisted of 1 biface, 1 unmodified flake, and 3 unmodified stones. A Late Woodland occupation

is indicated by the presence of a small side-notched arrow point (Plate 3U).

21C4-104, Section 34, T5S, R4W

Topographic Setting: located on an east oriented ridge spur 198 m from the west bank of Galum Creek at an elevation of 450-460 ft in the slope woodland zone near the confluence of Galum, Bonnie, and Rock Fork creeks.

Description: moderate to heavy scatter of sandstone, glacial cobbles, and chert and a moderate scatter of historic brick, glass, ceramics, and metal covering 6,600 $m^2$ in a planted field with 80% visibility.

Comments/Discussion: the material inventory contained 3 cores, 8 bifaces, 8 unifaces, 1 modified flake, 10 unmodified flakes, 1 modified stone, 1 porcelain rim sherd, 1 earthenware sherd, 3 bottle fragments, 2 curved glass, 1 fragmented glass, and 1 marble. The site was located on the east edge of Jamestown. One foundation west of the site might be associated with the historic debris. Three machine-made bottles manufactured by Owens Bottling Company and Illinois Glass Company, which operated between the early 1900s to 1929, suggested an Agricultural/ Industrial occupation period. Prehistoric cultural affiliation is unknown.

21C4-105, Section 35, T5S, R4W

Topographic Setting: located on a 440 ft northwest oriented ridge spur 1,125 m from the east bank of Galum Creek in the slope woodland zone.

Description: light scatter of sandstone, glacial cobbles, and chert covering 600 $m^2$ in stubble with 40% visibility.

Comments/Discussion: the artifact inventory included 1 modified flake and 1 modified stone of unknown cultural affiliation.

21C4-106, Section 35, T5S, R4W

Topographic Setting: situated on a 440 ft northeast oriented ridge spur 307 m from the east bank of Galum Creek near the confluence of Galum, Bonnie, and Rock Fork creeks in the slope woodland zone.

Description: light scatter of glacial cobbles and chert encompassing 800 $m^2$ in a planted field with 40% visibility.

Comments/Discussion: artifacts were not collected from the site.

21C4-107, Section 34, T5S, R4W

Topographic Setting: located on a southeast oriented ridge spur 274 m from the east bank of Galum Creek near its juncture with Rock Fork and Bonnie creeks at an elevation of 440 ft in the slope woodland zone.

Description: very light scatter of chert and glacial cobbles in brush with 70% visibility; site size indeterminate.

Comments/Discussion: the artifact inventory included one uniface of unknown cultural affiliation.

21C4-108, Section 21, T5S, R4W

Topographic Setting: situated on a northeast oriented bluff 274 m from the west bank of Galum Creek at an elevation of 470 ft in the slope woodland zone.

Description: light to moderate scatter of sandstone, glacial cobbles, and chert covering 2,800 $m^2$ in a planted field with 75% visibility.

Comments/Discussion: artifacts were not collected from the site.

21C4-109, Section 21, T5S, R4W

Topographic Setting: located on a 470 ft ridge top 213 m from the west bank of Galum Creek in the prairie zone.

Description: light scatter of glacial cobbles and chert covering 1,600 $m^2$ in brush with 0% visibility.

Comments/Discussion: the artifact inventory included 1 uniface, 3 modified stones, and 2 unmodified stones of unknown cultural affiliation.

21C4-110, Section 21, T5S, R4W

Topographic Setting: situated on a ridge top 395 m from the east bank of Galum Creek at an elevation of 460 ft in the slope woodland zone.

Description: light to moderate scatter of sandstone, chert, and historic debris encompassing 1,200 $m^2$ in a hog lot with 100% visibility.

Comments/Discussion: the artifact inventory consisted of 1 biface, 4 unifaces, 15 unmodified flakes, 1 unmodified stone, 3 unmodified shells, 4 historic ceramic fragments, 2 fragmented glass, and 3 fragmented bottles. Prehistoric cultural affiliation is unknown. Two applied lip bottle necks, earthenware, stoneware, and porcelain indicated a historic homestead postdating 1850, the Early Agricultural period. One machine-made wine bottle fragment attested to a recent occupation. The 1920 plat maps verified a structure at this location.

Also, an 1876 road approached the site from the south, which subsequently crossed Galum Creek. Huggins Cemetery (21C4-111H) is located south of 21C4-110 on an adjacent ridge (Map 7). The probable association of the site with Huggins Cemetery, Huggins Bridge, and the 80 acres of the original Huggins land purchase (1826) suggested that 21C4-110 may be the Huggins homestead (Map 7).

21C4-111H, Section 21, T5S, R4W

Topographic Setting: located on a south oriented ridge spur 228 m from the east bank of Galum Creek at an elevation of 460 ft in the slope woodland zone.

Description: Huggins family cemetery containing 37 grave markers extending 2,000 $m^2$ in forest and grass in the prairie zone.

Comments/Discussion: most of the legible grave markers bore the Huggins surname. The graves dated between 1837-1955. The site was utilized from the Pioneer period through the Agricultural/Industrial period. Twenty six markers bore inscriptions; seven sandstone markers showed no inscription.

21C4-112H, Section 21, T5S, R4W

Topographic Setting: situated on a ridge top 274 m from the west bank of Galum Creek at an elevation of 460 ft in the post oak flats zone.

Description: historic foundation extending 180 $m^2$ in forest with 0% visibility.

Comments/Discussion: artifacts were not collected from the site. The 1920 plat maps indicated a structure at this location (Map 7).

21C4-113H, Section 21, T5S, R4W

Topographic Setting: located on a ridge top 152 m from the west bank of Galum Creek at an elevation of 470 ft in the prairie zone.

Description: historic scatter located among remnant foundations and standing outbuildings (Figure 5) covering 2,400 $m^2$ in a pasture with 80% visibility.

Comments/Discussion: the artifact inventory included 2 transfer print whiteware fragments (Plate 3X), 3 hand-painted porcelain fragments (Plate 3V-W), 1 miscellaneous ceramic, 2 curved glass, 1 machine-made bottle fragment, and two identifiable metals. Reliable dates could not be assigned to the assemblage, although most material appeared to postdate 1920. The site was tentatively assigned to the Agricultural/ Industrial period. Figure 5 illustrates the arrangement of standing structures at 21C4-113H.

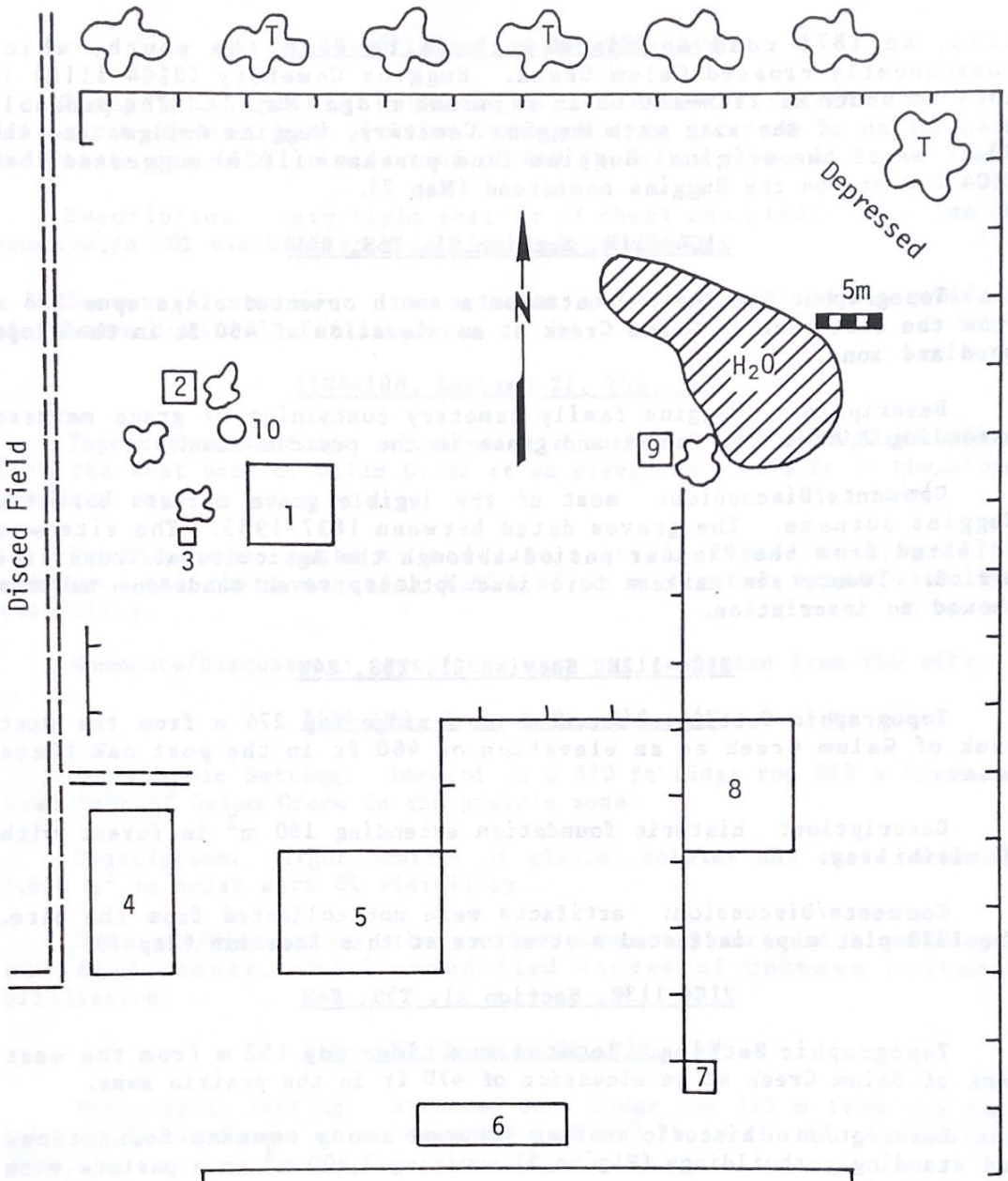



Figure 5

Plan View: 21C4-113H

1. Foundation Corner Blocks
2. Outbuilding
3. Well
4. Old Barn Frame
5. Central Barn
6. Chicken Coop
7. Outbuilding
8. Secondary Barn
9. Outbuilding
10. Trash Pile

T Timber

└─┘ Fence

21C4-114, Section 21, T5S, R4W

Topographic Setting: situated on a northeast oriented bluff 480 ft in elevation 61 m from the west bank of Galum Creek in the prairie/slope woodland zones.

Description: light scatter of sandstone, glacial cobbles, and chert in forest with 0% to 10% visibility; site size indeterminate.

Comments/Discussion: the artifact inventory consisted of 2 cores, 2 bifaces, 1 uniface, 5 modified flakes, 9 unmodified flakes, and 5 unmodified stones. Cultural affiliation is unknown.

21C4-115, Section 21, T5S, R4W

Topographic Setting: situated on a northeast oriented bluff of Galum Creek 122 m from its west bank at an elevation of 475 ft in the prairie zone.

Description: light scatter of sandstone and chert in a planted field with 100% visibility; site size indeterminate.

Comments/Discussion: the artifact inventory included 1 biface, 8 unmodified flakes, and 2 unmodified stones of unknown cultural affiliation.

21C4-116, Section 21, T5S, R4W

Topographic Setting: situated on a north oriented ridge spur 91 m from the west bank of Galum Creek at an elevation of 460 ft in the slope woodland zone.

Description: light to moderate scatter of sandstone, glacial cobbles, and chert in a planted field with 60% visibility; site size indeterminate.

Comments/Discussion: the artifact inventory consisted of 1 biface, 1 uniface, 1 modified flake, 21 unmodified flakes, and 1 unmodified stone. Cultural affiliation is unknown.

21C4-117, Section 28, T5S, R4W

Topographic Setting: located on a southwest oriented 450 ft ridge spur 243 m from the west bank of Galum Creek and 150 m from the east bank of Rock Fork Creek in the slope woodland zone.

Description: light to moderate scatter of sandstone, glacial cobbles, and chert extending 2,400 $m^2$ in brush with 0% visibility.

Comments/Discussion: the artifact inventory included 1 biface, 1 uniface, 2 unmodified flakes, 1 modified stone, 1 igneous/metamorphic rock, and 3 cinders. Cultural affiliation is unknown.

21C4-118, Section 28, T5S, R4W

Topographic Setting: situated on a 450 ft southwest oriented ridge spur 200 m from the east bank of Rock Fork Creek and 212 m from the west bank of Galum Creek in the slope woodland zone.

Description: light to moderate scatter of sandstone and chert flakes covering 4,400 $m^2$ in brush with 30% to 50% visibility.

Comments/Discussion: the artifact inventory included 1 core, 3 bifaces, 2 unifaces, 21 unmodified flakes, and 1 unmodified stone. Cultural affiliation is unknown.

21C4-119, Section 27, T5S, R4W

Topographic Setting: located on a 450 ft northeast oriented ridge spur 38 m from the west bank of Galum Creek in the slope woodland zone.

Description: light to moderate scatter of glacial cobbles, sandstone, and chert covering 5,600 $m^2$ in forest with 0% visibility.

Comments/Discussion: the artifact inventory encompassed 1 biface, 2 unmodified flakes, and 1 unmodified stone of unknown cultural affiliation.

21C4-120, Section 27, T5S, R4W

Topographic Setting: situated on a 450 ft northeast oriented bluff of Galum Creek 38 m from the west bank and 135 m from the east bank of Rock Fork Creek in the slope woodland zone.

Description: light to moderate scatter of sandstone, glacial cobbles, and chert covering 3,200 $m^2$ in forest with 0% visibility.

Comments/Discussion: the artifact inventory consisted of six unmodified flakes of unknown cultural affiliation.

21C4-121, Section 27, T5S, R4W

Topographic Setting: situated on a 450 ft northeast oriented bluff of Galum Creek 31 m from the west bank and 120 m from the east bank of Rock Fork Creek in the slope woodland zone.

Description: light to moderate scatter of sandstone, glacial cobbles, and chert in forest with 30% visibility; site size indeterminate.

Comments/Discussion: the artifact inventory included two unmodified flakes of unknown cultural affiliation.

21C4-122, Sections 27/34, T5S, R4W

Topographic Setting: located on a 450 ft northwest oriented bluff of Galum Creek 38 m from the west bank and near the confluence of Rock Fork and Bonnie creeks in the slope woodland zone.

Description: moderate scatter of sandstone, glacial cobbles, and chert located in forest with 30% to 40% visibility; site size indeterminate.

Comments/Discussion: the artifact inventory consisted of 3 bifaces, 1 uniface, 2 modified flakes, and 13 unmodified flakes. The site had a probable Mississippian occupation based on a triangular point form (Plate 3Y).

21C4-123, Section 34, T5S, R4W

Topographic Setting: situated on a 450 ft southeast oriented ridge spur on the west bank of Galum Creek near the confluence of Rock Fork and Bonnie creeks in the slope woodland zone.

Description: light to moderate scatter of sandstone, glacial cobbles, and chert in forest with 0% visibility; site size indeterminate.

Comments/Discussion: the artifact inventory included 1 uniface and 4 unmodified flakes of unknown cultural affiliation.

21C4-124, Section 28, T5S, R4W

Topographic Setting: located on a 450 ft southeast oriented ridge spur 180 m from the west bank of Rock Fork Creek and 882 m from the west bank of Galum Creek in the slope woodland zone.

Description: moderate to heavy scatter of chert and historic material covering 6,600 $m^2$ in forest with 0% visibility.

Comments/Discussion: the artifact inventory consisted of 1 modified flake, 5 unmodified flakes, 7 unmodified stones, 1 earthenware fragment, 3 stoneware fragments, 2 fragmented sherds, 1 curved glass, 1 nail, 1 brick, 1 cinder, and 1 intact bottle. Other historical features which may be associated with this site included 2 trash dumps, a large circular feature of unknown function, and a road which entered the site from the northwest and was obscured by undergrowth. Field observation suggested a date at the turn of the century for the historic occupation, Early Agricultural. Also, a local informant (Paul Alexander, personal communication 1980) stated that the site was a ranch occupied by Walter Alexander in the late 1800s. Prehistoric cultural affiliation is unknown.

21C4-125, Section 28, T5S, R4W

Topographic Setting: situated on a ridge top 66 m from the west bank of Rock Fork Creek and 820 m from the west bank of Galum Creek at an elevation of 450 ft in the slope woodland zone.

Description: light scatter of sandstone, glacial cobbles, and chert and a moderate scatter of historic material in a disced field with 30% visibility; site size indeterminate.

Comments/Discussion: the artifact inventory consisted of 2 cores, 1 biface, 2 unifaces, 1 unmodified flake, 1 modified stone, 2 unmodified stones, 1 stoneware fragment, 2 curved glass, 3 bottle fragments, 1 whiteware fragment (Plate 3Z), and 3 bricks. A pre-1840 habitation site was indicated (Kendrick 1968:140) by 2 applied-lip bottles formed in two-piece molds with free-formed lips (Plate $3A^{1-2}$), 1 early pressed glass fragment, 1 blue transfer print earthenware, and other material. Other historic features included remnants of an old roadbed and a hedgerow. The historic occupation was not noted on the 1902 plat map, suggesting pre-1902 abandonment, Pioneer period (Map 7). Prehistoric cultural affiliation is unknown.

21C4-126H, Section 28, T5S, R4W

Topographic Setting: located on a south oriented ridge spur 150 m from the juncture of two tributaries of Rock Fork Creek and 1,429 m from the west bank of Galum Creek at an elevation of 450 ft in the slope woodland zone.

Description: heavy scatter of historic debris, foundations, and structures extending 10,000 $m^2$ in forest with 0% to 50% visibility.

Comments/Discussion: the artifact inventory included 1 curved glass, 1 bottle fragment, 4 nails, 1 brick fragment, 1 cinder, and 2 unidentifiable materials. Other historic features consisted of remnants of 3 foundations, 1 collapsed barn, and 1 stone silo foundation (Figure 6). One foundation was constructed of cut limestone slabs associated with a leg fragment of a wood burning stove, burned glass, bottle fragments, and other material. These artifact associations probably represented the main house structure. The collapsed barn appeared to have been constructed with main beams of mill-squared logs, square nails, and wooden pegs. Round nails also were present in the structure. Shovel tests in the locality of the silo and collapsed barn produced burned glass and cinder. Remnants of a modern (post-1900) outbuilding and a collapsed structure with hand-hewn log supports also were observed. The 1920 plat map notes a structure on this location (Map 7). Paul Alexander (personal communication 1980) stated that the site was the home of Amos Brown. Extensive modern trash dumping did not permit a clear delineation of the age of the site. However, the presence of a log foundation, square nails, and pegs in the barn and a cut limestone foundation suggested an early occupation followed by later habitation and disturbance (i.e., modern outbuildings). The site was tentatively assigned to the Agricultural/ Industrial period.

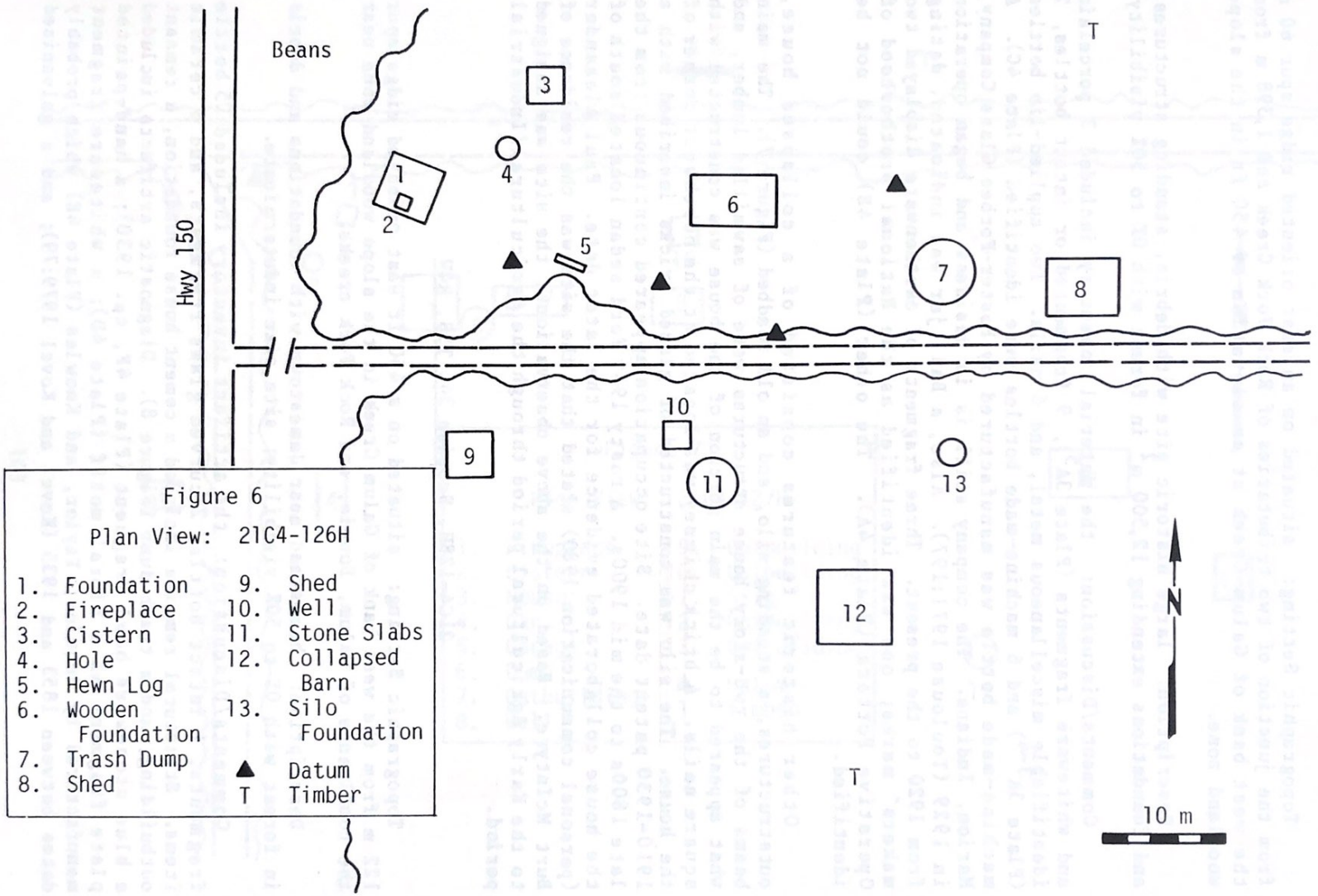



Figure 6

Plan View: 21C4-126H

| | |
|---|---|
| 1. Foundation | 9. Shed |
| 2. Fireplace | 10. Well |
| 3. Cistern | 11. Stone Slabs |
| 4. Hole | 12. Collapsed Barn |
| 5. Hewn Log | 13. Silo Foundation |
| 6. Wooden Foundation | ▲ Datum |
| 7. Trash Dump | T Timber |
| 8. Shed | |

21C4-127H, Section 33, T5S, R4W

Topographic Setting: situated on an east oriented ridge spur 60 m from the junction of two tributaries of Rock Fork Creek and 1,398 m from the west bank of Galum Creek at an elevation of 450 ft in the slope woodland zone.

Description: large historic site with debris, standing structures, and foundations extending 12,500 $m^2$ in forest with 0% to 50% visibility.

Comments/Discussion: the material inventory included 3 porcelain and whiteware fragments (Plate $3A^5$), 9 fragmented or intact bottles, 2 identifiable miscellaneous metal, and 6 nails. Two applied-lip bottles (Plate $3A^{3-4}$) and 6 machine-made bottles were identified (Plate 4C). A machine-made bottle was manufactured by Foster-Forbes Glass Company, Marion, Indiana. The company still is in business and began operation in 1929 (Toulouse 1971:197). Also, a Ball jar was indicated, dating from 1920 to the present. Three fragments of earthenware displayed two makers' marks; one was identified as the National Brotherhood of Operative Potters (Plate 4A). The other (Plate 4B) could not be identified.

Other historic features consisted of a collapsed house, outstructures, a standing silo, and an old roadbed (Figure 7). The main beams of the two-story house structures were of sawmilled lumber, and what appeared to be the main portion of the house was constructed with square nails. A brick chimney was located at the northwest corner of the house. The silo was constructed of glazed bricks inscribed with a 1910-1930 patent date. Site occupation appeared continuous from the late 1800s to the mid 1900s. A rusty 1949 Ford sedan located south of the house collaborated evidence for the later date. Paul Alexander (personal communication 1980) stated that the site was the residence of Burt McIntyre. Based on the above observations, the site was assigned to the Early Agricultural period through the Agricultural/Industrial period.

21C4-128H, Section 34, T5S, R4W

Topographic Setting: situated on a 450 ft east oriented ridge spur 122 m from the west bank of Galum Creek in the slope woodland zone near the confluence of Galum, Bonnie, and Rock Fork creeks.

Description: homestead near Jamestown with foundations and debris in forest with 0% to 50% visibility; site size indeterminate.

Comments/Discussion: the artifact inventory included 15 bottle fragments, 1 intact bottle, 2 curved glass fragments, and 6 ceramic items. Structural remains included a cement house foundation, a remnant outbuilding, and a trash dump (Figure 8). Diagnostic artifacts included a blue stoneware bowl fragment (Plate 4F, ca. 1930); a hand-painted plate fragment in a floral motif (Plate 4D); a whiteware fragment manufactured by Knowles, Taylor, and Knowles (Plate 4E) which probably dates between 1853 and 1935 (Kovel and Kovel 1979:79); and a galvanized

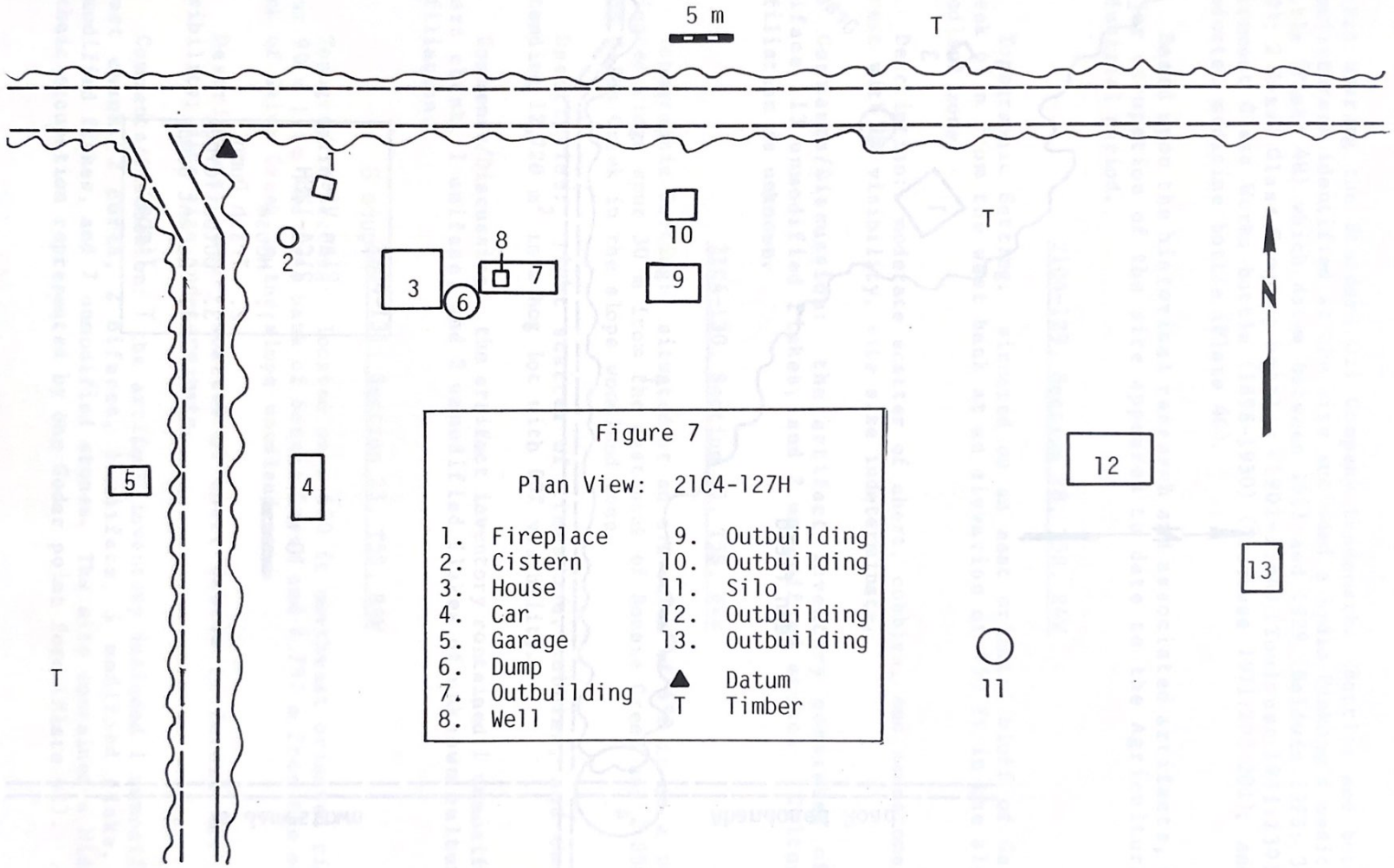



Figure 7

Plan View: 21C4-127H

| | | | |
|---|---|---|---|
| 1. | Fireplace | 9. | Outbuilding |
| 2. | Cistern | 10. | Outbuilding |
| 3. | House | 11. | Silo |
| 4. | Car | 12. | Outbuilding |
| 5. | Garage | 13. | Outbuilding |
| 6. | Dump | ▲ | Datum |
| 7. | Outbuilding | T | Timber |
| 8. | Well | | |

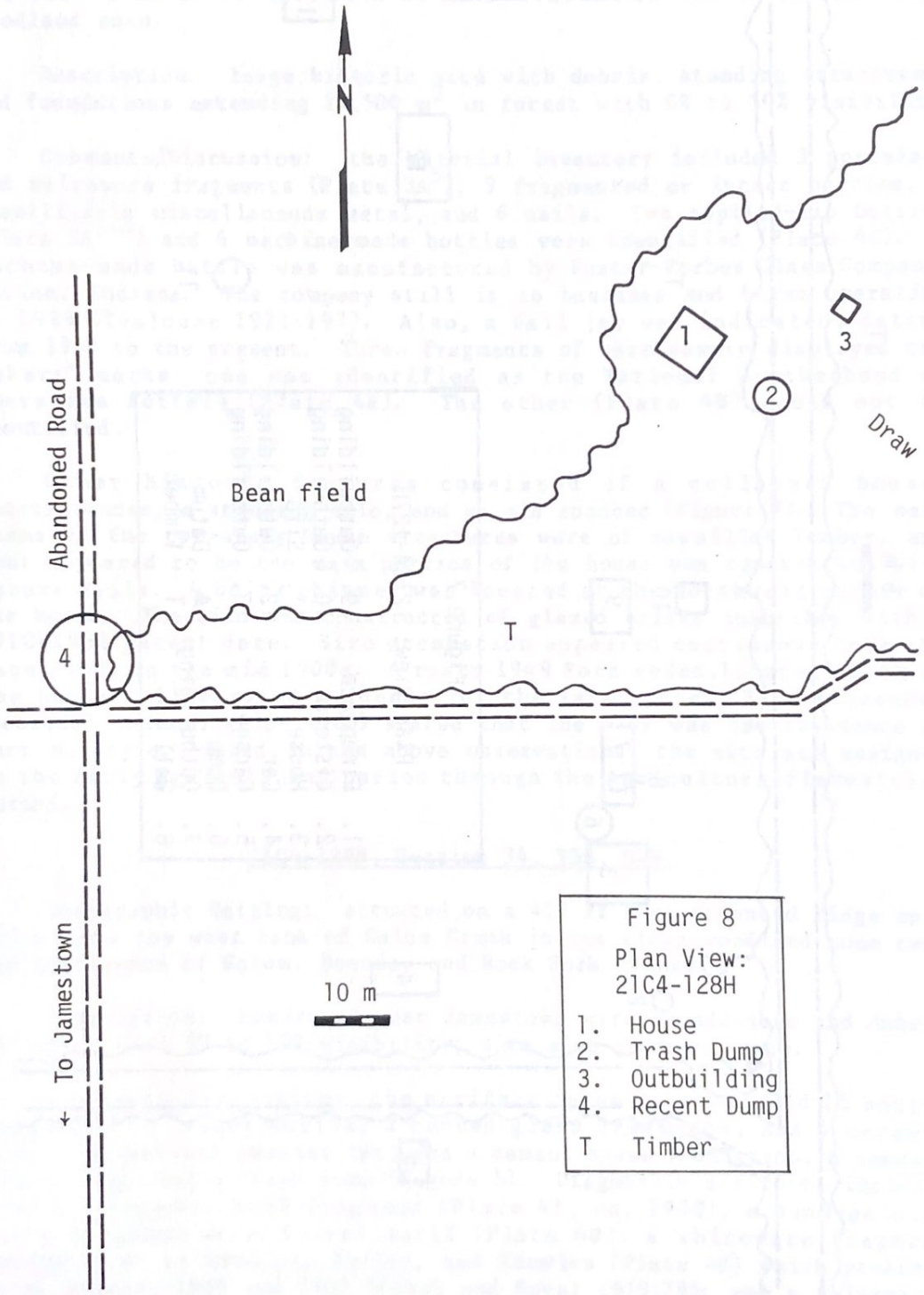



Figure 8

Plan View:
21C4-128H

1. House
2. Trash Dump
3. Outbuilding
4. Recent Dump

T Timber

bucket bearing the Standard Oil Company trademark. Bottles and bottle manufacturers identified at the site included a Lydia Pinkham's medicine bottle (Plate 4H) which dates between 1911 and 1929 (Baldwin 1973: 389-390); 2 Hazel Glass Company bottles (1902-1964) (Toulouse 1971:239); 1 Fairmount Glass Works bottle (1898-1930) (Toulouse 1971:200-201); and a graduated medicine bottle (Plate 4G).

Based upon the historical research and associated artifacts, the major occupation of the site appeared to date to the Agricultural/ Industrial period.

21C4-129, Section 28, T5S, R4W

Topographic Setting: situated on an east oriented bluff of Galum Creek 61 m from the west bank at an elevation of 450 ft in the slope woodland zone.

Description: moderate scatter of chert, cobbles, and sandstone in forest with 0% visibility; site size indeterminate.

Comments/Discussion: the artifact inventory consisted of 1 uniface, 13 unmodified flakes, and 2 unmodified stones. Cultural affiliation is unknown.

21C4-130, Section 23, T5S, R4W

Topographic Setting: situated at an elevation of 450 ft on a west oriented ridge spur 30 m from the east bank of Bonnie Creek and 2,858 m from Galum Creek in the slope woodland zone.

Description: light scatter of limestone, cobbles, and chert extending 12,720 $m^2$ in a hog lot with 80% visibility.

Comments/Discussion: the artifact inventory contained 1 unmodified chert chunk, 1 uniface, and 2 unmodified flakes of unknown cultural affiliation.

21C4-131, Section 23, T5S, R4W

Topographic Setting: located on a 450 ft northwest oriented ridge spur 90 m from the east bank of Bonnie Creek and 2,797 m from the east bank of Galum Creek in the slope woodland zone.

Description: heavy scatter of chert debris in forest with 5% visibility; site size indeterminate.

Comments/Discussion: the artifact inventory included 1 unmodified chert chunk, 2 cores, 2 bifaces, 1 uniface, 1 modified flake, 15 unmodified flakes, and 7 unmodified stones. The site contained a Middle Archaic occupation represented by one Godar point form (Plate 4I).

21C4-132, Section 23, T5S, R4W

Topographic Setting: located on a 450 ft northwest oriented ridge spur 30 m from the east bank of Bonnie Creek and 2,523 m from the east bank of Galum Creek in the slope woodland zone.

Description: light scatter of sandstone, cobbles, chert, and historic material encompassing 2,100 $m^2$ in forest and small pasture with 80% visibility.

Comments/Discussion: the artifact inventory consisted of 1 core, 1 biface, 6 unmodified flakes, 1 modified stone, 4 porcelain and earthenware fragments, and 6 intact or fragmented bottles. The historical debris was from a trash dump. Five applied lip bottle fragments indicated a post-1850 date (Plate 4K-O). One fragment of a Hood's patented medicine bottle (Plate 4J) was identified which was produced by a company in operation in the 1880s in Vermont (Baldwin 1973:250). Hand-painted earthenware and transfer print porcelain also were in the assemblage (Plate 4P). Plat maps from 1902 indicated a structure at this location (Map 7). An old roadbed extended into the site proper. The historic artifacts were assigned to the Early Agricultural period, while the prehistoric cultural affiliation could not be determined.

21C4-133, Section 21, T5S, R4W

Topographic Setting: located on a 460 ft northwest oriented ridge spur 334 m from the east bank of Galum Creek in the prairie zone.

Description: contains two concentrations with moderate to heavy scatters of sandstone, cobbles, and chert encompassing 14,400 $m^2$ in a planted field with 40% visibility.

Comments/Discussion: the artifact inventory consisted of 1 unmodified chert chunk, 1 core, 4 bifaces, 13 unifaces, 2 modified flakes, 65 unmodified flakes, 1 body sherd, 2 modified stones, and 1 unmodified stone. The site represented a Late Woodland occupation based on one Raymond or Dillinger cordmarked body sherd.

21C4-134, Section 21, T5S, R4W

Topographic Setting: situated on a 450 ft northeast oriented ridge spur 91 m from the west bank of Galum Creek at an elevation of 450 ft in the slope woodland zone.

Description: a light scatter of chert, glacial cobbles, and historic debris covering 1,000 $m^2$ in brush with 50% visibility.

Comments/Discussion: the artifact inventory included 1 uniface, 1 modified stone, 1 unmodified stone, 2 earthenware fragments, 1 flat glass, 3 bottle fragments, 3 nails, 2 bricks, and 8 cinders. One bottle fragment was a product of the Adolphus Busch Glass Company, which operated between 1886-1928. One raised relief earthenware fragment also

was a diagnostic specimen (1850-1880). Structures were not indicated on the 1902 plat maps. Prehistoric cultural affiliation is unknown; historic cultural affiliation tentatively was assigned to the Early Agricultural period.

21C4-135H, Section 21, T5S, R4W

Topographic Setting: located on a 470 ft south oriented ridge top 152 m from the east bank of Galum Creek in the slope woodland zone.

Description: light scatter of historic material in forest and stubble with 30% visibility; site size indeterminate.

Comments/Discussion: the artifact inventory consisted of 2 fragmented stoneware mixing bowls (Plate 5A), 5 bottle fragments, 8 intact bottles, 10 curved glass, and 1 miscellaneous historic item. The material originated from a trash dump. Three bottles were identifiable as Dr. W. B. Caldwell's pepsin bottles (Plate 5B), a St. Joseph's cold medicine bottle, a Quality Dairy milk bottle from Springfield, Illinois (Plate 5C), and a Hiller's Brothers Dairy (Pinckneyville) bottle (Plate 5D). All bottles were machine made, postdating 1920, the Agricultural/Industrial period.

21C4-136, Section 27, T5S, R4W

Topographic Setting: situated on a 450 ft west oriented ridge spur 426 m from the east bank of Galum Creek in the slope woodland zone.

Description: light scatter of chert in stubble with 75% visibility; site size indeterminate.

Comments/Discussion: the artifact inventory consisted of 1 biface and 1 unmodified flake of unknown cultural affiliation.

21C4-137, Section 27, T5S, R4W

Topographic Setting: situated on a west oriented ridge spur 243 m from the east bank of Galum Creek at an elevation of 450 ft in the slope woodland zone.

Description: light scatter of ceramics, chert, glacial cobbles, and historic debris in stubble with 30% visibility; site size indeterminate.

Comments/Discussion: the artifact inventory included 1 uniface, 1 modified flake, 9 unmodified flakes, 2 body sherds, 2 miscellaneous clay items, 1 modified stone, 1 unmodified stone, 1 flat glass, and 1 earthenware fragment. Diagnostic historic material was not recovered. The 1902 and 1920 plat maps had no record of structures at this location. The prehistoric occupation was a Late Woodland component represented by two Raymond or Dillinger cordmarked body sherds.

21C4-138H, Section 27, T5S, R4W

Topographic Setting: located on an east oriented ridge spur 330 m from the west bank of Bonnie Creek and 334 m from the east bank of Galum Creek at an elevation of 450 ft in the slope woodland zone.

Description: moderate scatter of historic debris covering 2,800 $m^2$ in a disced field with 100% visibility.

Comments/Discussion: the artifact inventory included 2 porcelain and earthenware fragments, 6 curved glass, 1 fragmented bottle, and 1 miscellaneous historic item. A partial maker's mark on transfer print earthenware is identified as Shenango China produced in New Castle, Pennsylvania, during the nineteenth century (Plate 5E) (Kovel and Kovel 1979:1720). The 1902 and 1920 plat maps contained no evidence of a structure at this location. The occupation date of 21C4-138H tentatively was assigned to the turn of the nineteenth century, a transitional period between Early Agricultural and the Agricultural/ Industrial periods.

21C4-139H, Section 35, T5S, R4W

Topographic Setting: located on a ridge top 973 m from the east bank of Galum Creek at an elevation of 440 ft in the post oak flats zone.

Description: moderate scatter of historic debris associated with standing structures encompassing 2,500 $m^2$ in brush with 85% visibility.

Comments/Discussion: the artifact inventory included 1 whiteware fragment (Plate 5F) and 2 applied-lip bottle fragments. The latter material was diagnostic and suggested a post-1850 occupation date (Early Agricultural). A structure was located on this site before 1920, as indicated by plat maps (Map 7). Other historic features included a single house structure, 2 barns, 3 outbuildings, and a pond (Figure 9). Architectural details appear later in this section.

21C4-140, Section 34, T5S, R4W

Topographic Setting: situated on a 450 ft east oriented ridge top near the confluence of Galum, Bonnie, and Rock Fork creeks and 137 m from the west bank of Galum Creek in the slope woodland zone.

Description: light to moderate scatter of glacial cobbles, sandstone, and chert in brush with 10% visibility; site size indeterminate.

Comments/Discussion: the artifact inventory included 1 core, 1 biface, 1 modified flake, 4 unmodified flakes, 1 modified stone, 3 unmodified stones, and 1 cinder. Cultural affiliation is unknown.

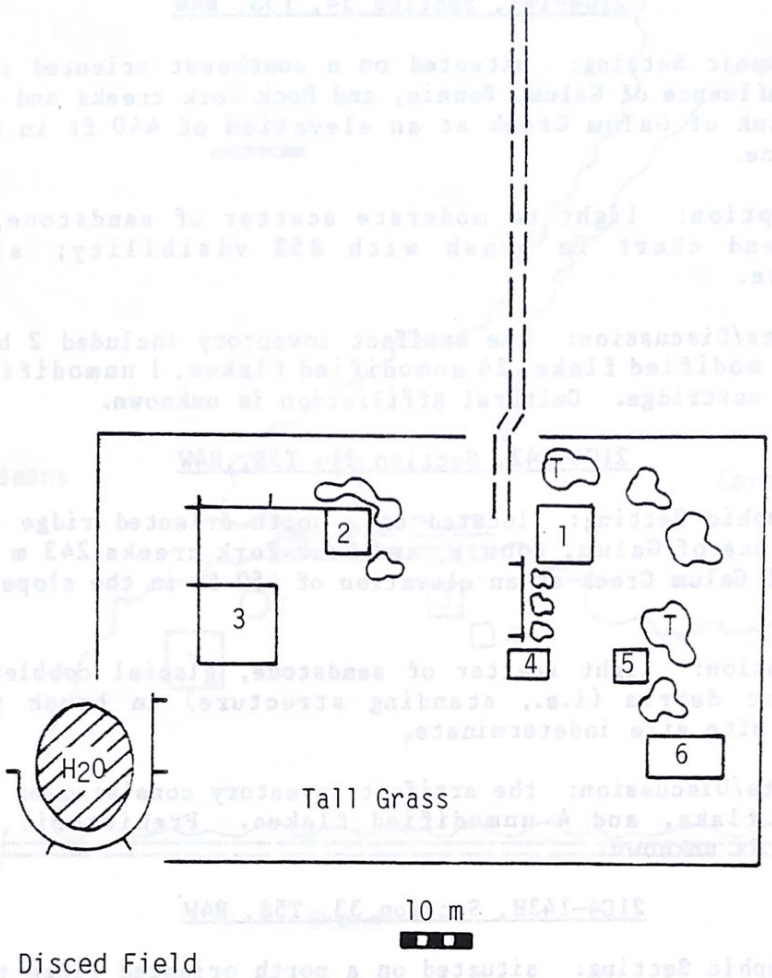



Figure 9
Plan View
21C4-139H

1. Central House
2. Small Barn
3. Main Barn
4. Outbuilding
5. Outbuilding
6. Outbuilding

T Timber
—— Fence

21C4-141, Section 34, T5S, R4W

Topographic Setting: situated on a southwest oriented ridge spur near the confluence of Galum, Bonnie, and Rock Fork creeks and 61 m from the east bank of Galum Creek at an elevation of 440 ft in the slope woodland zone.

Description: light to moderate scatter of sandstone, glacial cobbles, and chert in brush with 85% visibility; site size indeterminate.

Comments/Discussion: the artifact inventory included 2 bifaces, 3 unifaces, 1 modified flake, 24 unmodified flakes, 1 unmodified stone, and 1 rifle cartridge. Cultural affiliation is unknown.

21C4-142, Section 31, T5S, R4W

Topographic Setting: located on a north oriented ridge spur near the confluence of Galum, Bonnie, and Rock Fork creeks 243 m from the west bank of Galum Creek at an elevation of 450 ft in the slope woodland zone.

Description: light scatter of sandstone, glacial cobbles, chert, and historic debris (i.e., standing structure) in brush with 10% visibility; site size indeterminate.

Comments/Discussion: the artifact inventory consisted of 1 biface, 1 modified flake, and 4 unmodified flakes. Prehistoric cultural affiliation is unknown.

21C4-143H, Section 33, T5S, R4W

Topographic Setting: situated on a north oriented ridge top 790 m from the west bank of Galum Creek at an elevation of 460 ft in the prairie zone.

Description: several foundations with a moderate scatter of historic debris covering 4,800 $m^2$ in forest with 10% visibility.

Comments/Discussion: the artifact inventory included 1 nail, 1 piece of iron, and 2 shell buttons. Other historic features consisted of 1 central stone foundation associated with a stone-lined well, 2 collapsed outbuildings, 1 well, and 1 barn (Figure 10). Chester Road, which appears on the 1876 atlas of Perry County, was to the south of the main site area (Map 7). The two-component barn was located to the west of the site. The inner structure contained only a remnant foundation. The outer structure might be a later addition to the barn. Diagnostic items collected from shovel tests near the barn included 1 hand iron marked A. C. Williams Company, Ravenna, Ohio (Plate 5G); 1 square nail; 2 shell buttons; and Ball canning jars of the lightening closure type. A pre-1900 date, Early Agricultural period, was suggested for this material and was further supported by the 1902 plat map, which identified a homestead at this locality (Map 7).

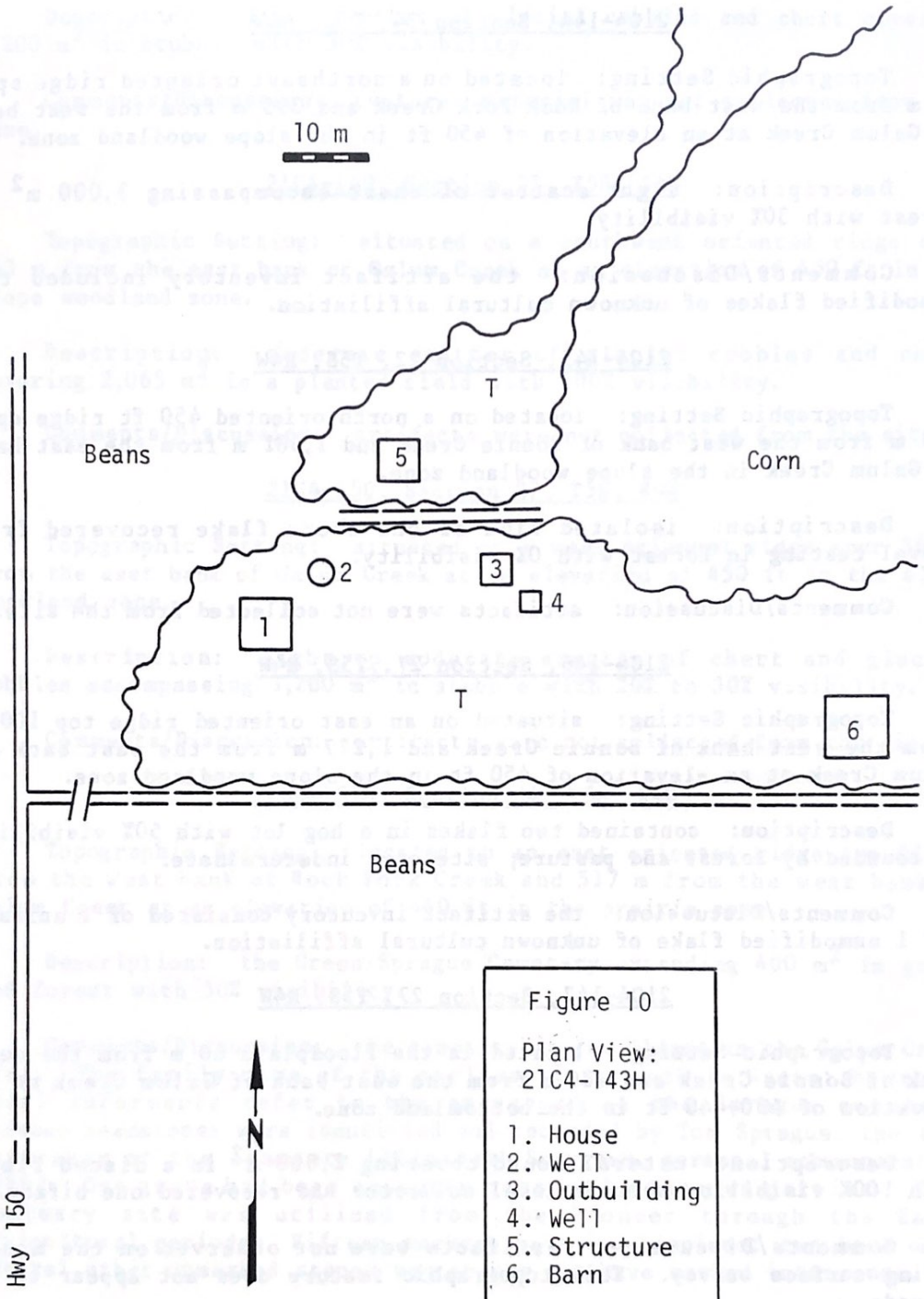



Figure 10

Plan View:
21C4-143H

1. House
2. Well
3. Outbuilding
4. Well
5. Structure
6. Barn

T Timber

21C4-144, Section 34, T5S, R4W

Topographic Setting: located on a northeast oriented ridge spur 65 m from the west bank of Rock Fork Creek and 395 m from the west bank of Galum Creek at an elevation of 450 ft in the slope woodland zone.

Description: light scatter of chert encompassing 3,000 $m^2$ in forest with 30% visibility.

Comments/Discussion: the artifact inventory included two unmodified flakes of unknown cultural affiliation.

21C4-145, Section 22, T5S, R4W

Topographic Setting: located on a north oriented 450 ft ridge spur 300 m from the west bank of Bonnie Creek and 1,581 m from the east bank of Galum Creek in the slope woodland zone.

Description: isolated find of one chert flake recovered from shovel testing in forest with 0% visibility.

Comments/Discussion: artifacts were not collected from the site.

21C4-146, Section 27, T5S, R4W

Topographic Setting: situated on an east oriented ridge top 100 m from the west bank of Bonnie Creek and 1,277 m from the east bank of Galum Creek at an elevation of 450 ft in the slope woodland zone.

Description: contained two flakes in a hog lot with 50% visibility surrounded by forest and pasture; site size indeterminate.

Comments/Discussion: the artifact inventory consisted of 1 uniface and 1 unmodified flake of unknown cultural affiliation.

21C4-147, Section 27, T5S, R4W

Topographic Setting: located in the floodplain 60 m from the west bank of Bonnie Creek and 486 m from the east bank of Galum Creek at an elevation of 430-440 ft in the bottomland zone.

Description: natural mound covering 2,500 $m^2$ in a disced field with 100% visibility where a local collector had recovered one biface.

Comments/Discussion: artifacts were not observed on the mound during surface survey. This topographic feature does not appear to be manmade.

21C4-148, Section 27, T5S, R4W

Topographic Setting: located on a west oriented ridge spur 203 m from the east bank of Galum Creek at an elevation of 450 ft in the slope woodland zone.

Description: light scatter of glacial cobbles and chert covering 4,200 $m^2$ in stubble with 30% visibility.

Comments/Discussion: cultural material was not collected from the site.

21C4-149, Section 27, T5S, R4W

Topographic Setting: situated on a southwest oriented ridge spur 243 m from the east bank of Galum Creek at an elevation of 450 ft in the slope woodland zone.

Description: moderate scatter of glacial cobbles and chert covering 2,065 $m^2$ in a planted field with 100% visibility.

Comments/Discussion: artifacts were not collected from the site.

21C4-150, Section 27, T5S, R4W

Topographic Setting: situated on a west oriented ridge spur 365 m from the east bank of Galum Creek at an elevation of 450 ft in the slope woodland zone.

Description: light to moderate scatter of chert and glacial cobbles encompassing 3,200 $m^2$ in stubble with 20% to 30% visibility.

Comments/Discussion: artifacts were not collected from the site.

21C4-151H, Section 34, T5S, R4W

Topographic Setting: located on an east oriented ridge top 210 m from the west bank of Rock Fork Creek and 517 m from the west bank of Galum Creek at an elevation of 460 ft in the prairie zone.

Description: the Green/Sprague Cemetery extending 400 $m^2$ in grass and forest with 50% visibility.

Comments/Discussion: the cemetery is the oldest in the Galum Creek area. The family name of the earliest interment is Green; however, local informants refer to the graveyard as the Sprague cemetery. Fifteen headstones were identified and recorded by Tom Sprague, the last caretaker of the cemetery (Elizabeth Spurgeon, personal communication 1980). One grave had been recently removed by unknown parties. This mortuary site was utilized from the Pioneer through the Early Agricultural periods. Fifteen markers have inscriptions; two bore none. Several other unmarked stones may or may not have marked interments.

21C4-152H, Section 23, T5S, R4W

Topographic Setting: situated on a northwest oriented ridge spur 1,130 m from the east bank of Bonnie Creek and 2,584 m from the east bank of Galum Creek at an elevation of 450 ft in the slope woodland zone.

Description: the Gerstenschlager cemetery covering 800 $m^2$ in grass with 50% visibiliby.

Comments/Discussion: the cemetery consisted of 32 headstones in situ, consisting mostly of German surnames. German immigrants began to purchase property in the locality during the early 1800s. The graves ranged in age from 1887 to 1945 (Early Agricultural through Agricultural/Industrial). This site is referred to as the Gerstenschlager Cemetery since most of the interments are of this surname.

All inscriptions from historic cemeteries are on file at American Resources Group, Ltd., Carbondale, Illinois.

## Standing Architectural Resources

Standing architectural features in the Northfield were limited to those houses and farmsteads which were still occupied at the time of this survey or very recently vacated. Several collapsed structures, barn skeletons, and foundations existed within the area, but these could not be considered as architectural sites and were not recorded or evaluated. All that remains of the village of Jamestown are foundations and a few recent frame structures which are being dismantled or left to decay. The following farmsteads represent what remained as of May 26, 1980.

### Site A1 (21C4-139H) (Map 7)

Earl Smith farmstead: this site was an abandoned farmstead consisting of seven structures. Estimated period of construction was early twentieth century.

Structure 1. A one-and-a-half story fame house with a "T" plan form. The house had a brick foundation and partial cellar. The interior was divided into three rooms on the main level, with the same room arrangement in the attic level. Open porches were located on the front and rear sides of the "T" stem portion. The house had clapboard siding and intersecting gable roofs with asphalt shingles. The original roofing was unknown. Windows and doors had built-up molding heads.

Structure 2. A garage of frame construction with a rectangular plan form. The roof was a gable type; the siding was board and batten.

Structure 3. A two-story general purpose barn of heavy timber frame construction. Beams and posts were mortised and tenoned with pinned connections. The interior was divided into a manger, cribs, and general storage space. A lean-to shed had been added to the north side of the barn. The barn had a gable roof with a peaked rain hood, corrugated sheet iron roofing, and vertical board siding.

Structure 4. An outbuilding of frame construction. Originally, this structure originally may have been partially used as a granary.

Structure 5. A washhouse/storage building of frame construction set on concrete masonry unit pilings. The entrance was in the center of the gable end. The exterior was finished with board and batten siding. This building had a gable roof with corrugated iron sheet roofing over wood shingles.

Structure 6. A coop of frame construction with a rectangular plan form. The roof was a gable with corrugated iron roofing. Siding was of vertical boards. This structure was nearly collapsed at the time of the survey.

Structure 7. A privy of frame construction with a square plan form. The building had vertical board siding and a shed roof with corrugated iron roofing.

The structures of this farmstead were standard functional and structural types. They were representative of typical farmstead structures built during the early twentieth century.

Site A2 (Map 7)

Farmstead: this site was an abandoned farmstead consisting of eight structures. The estimated period of construction was late nineteenth to early twentieth century.

Structure 1. A frame house with an overall "T" plan form. The main portion of the house was a two-story "I" type structure with a central stairway. The main house was three bays wide and two bays deep. A one-story "T" section had been added to the rear of the main house and had an attached enclosed porch. The gable roof of the front portion of the house was broken at the eave line and extended forward to form a full-width front porch. The front porch was of two levels, both levels being accessible from each floor at the center bay. Windows were wood, double hung types with 2/2 light sashes.

Structure 2. A shed of heavy timber frame construction with mortised and tenoned joints. Roofing slats and posts were of sawn lumber. The roof form was a gable. Roofing and siding were of corrugated sheet iron.

Structure 3. An outbuilding of frame construction. The structure had a rectangular plan form and a gable roof. Access to the structure was through two doors in the gable end, one opening directly to an interior trap door to the concrete cellar. Rafters were projected and exposed; roofing was of corrugated iron sheets. Siding was of beaded wood.

Structure 4. A well of concrete masonry unit construction.

Structure 5. A hog house of frame construction. The house was a colony type and had a shed roof with corrugated iron sheet roofing.

Structure 6. A hog house of frame construction. The house was a colony type and had a shed roof with corrugated iron sheet roofing.

Structure 7. A machine shed of pole frame construction. The shed had a rectangular plan form and was enclosed on three sides. Roofing and siding were of corrugated iron sheets.

Structure 8. A general purpose barn of heavy timber frame construction. The barn was two stories in height and had a peaked rain hood. A hay track was located beneath the ridge line of the gable roof. Entrances to the barn were located in the gable end as was the door to the hay loft.

The structures found on this site were standard functional and structural types. They were representative of common farmstead buildings of the late nineteenth through the early and mid-twentieth centuries.

Site A3 (Map 7)

This site was an abandoned farmstead consisting of six standing structures. Estimated period of construction was early/mid-twentieth century.

Structure 1. A one-and-a-half story house of frame construction. The house had a square plan form and consisted of four rooms on the lower level, plus enclosed rear porch with a habitable attic level and a basement. The ridge line of the gable roof was parallel with the front of the house and had wood shingles overlain with asphalt roll type roofing. Interior walls were finished with clapboard siding.

Structure 2. A frame garage with a rectangular plan form and shed additions to either side. The building had a gable roof with asphalt shingle roofing, and siding was clapboard. The entrance was through the gable end.

Structure 3. A privy of frame construction with a square plan form. The building had a shed type roof and clapboard siding.

Structure 4. A central type hog house with a rectangular plan form. The building was of frame construction, had a shed roof with asphalt roll roofing and asphalt shingle siding.

Structure 5. A stock barn of heavy timber frame construction. This barn had a rectangular plan form and a main level with hay loft. The loft had a semienclosed peaked rain hood. A granary was built into one corner of the barn, and mangers were oriented with the longitudinal axis of the barn at 1/3 points of the barn's width. The gable roof had corrugated iron sheet roofing. Siding was vertical boards.

Remains of Structure 6. The concrete floor slab and concrete masonry unit foundation were the only remains of a former structure. The building had a rectangular plan form.

The standing structures of this farmstead were standard functional and structural types. They were typical of early and mid-twentieth century farmstead buildings.

Site A4 (Map 7)

House site: this abandoned house site consisted of two structures. The estimated period of construction was early/mid-twentieth century.

Structure 1. A bungalow style house of frame construction. The house was of the linear type having a rectangular plan form with the entrance in the gable end and an open front porch with a gable roof slightly lower than the main house roof. The house had asphalt shingle roofing and clapboard siding. Windows were wood, double hung units with 3/1 light sashes.

Structure 2. A garage/storage building of frame construction. The main roof was a gable type. The storage section had a shed type roof. Roofing was corrugated iron sheets; siding was vertical boards.

Site A5 (Map 7)

Farmstead: this site was an abandoned farmstead and consisted of 17 standing structures. Estimated period of construction is mid/late nineteenth century through the mid-twentieth century.

Structure 1. A one-and-a-half story house of frame construction with a "T" plan form. The "stem" portion of the "T" appeared to be a later addition to the original house. The main portion of the house was of heavy timber frame construction with brick nogging. A hewn timber sill on stone pilings was partially exposed. The roof form was intersecting gables. Walls were finished with clapboard siding. Windows were wood, double hung units with 4/4 light sashes and had built-up molding heads.

Structure 2. A garage of frame construction with rectangular plan form. The roof form was a gable with corrugated iron sheets.

Structure 3. An outbuilding of frame construction with a rectangular plan form. The entrance was located in the gable end. The building had a gable roof and corrugated iron sheet roofing. The building had vertical board siding and had no foundation.

Structure 4. An outbuilding of frame construction. The building had a rectangular plan form, a side entry, and sat on stone pilings. The roof was a gable type with wood shingles. Walls were finished with asphalt roll siding.

Structure 5. An outbuilding of frame construction. The structure had a rectangular plan form, gable end entrance, and vertical board siding.

Structure 6. A privy of frame construction with a rectangular plan form. The structure had a shed type roof, corrugated iron roofing, and beaded siding.

Structure 7. A colony type poultry house of frame construction. The building had a rectangular plan form, a shed roof with corrugated iron sheet roofing, and beaded siding.

Structure 8. A granary of frame construction. The structure had a rectangular plan form, an open central aisle, and a side shed addition. The roof form was a gable with an extended slope over the side storage shed. The siding material was vertical boards.

Structure 9. A colony type hog house of frame construction. The structure had a rectangular plan form and a near flat roof with corrugated iron sheet roofing.

Structure 10. A colony type hog house of frame construction. The structure had a rectangular plan form and a near flat roof with corrugated iron sheet roofing.

Structure 11. A granary of frame construction with a loft. This structure had a rectangular plan form with a gable roof.

Structure 12. A colony type hog house of frame construction. This structure had a rectangular plan form with a shed roof and corrugated iron sheet roofing. The siding material was vertical boards.

Structure 13. A three-bay barn of heavy timber and pole type frame construction. This structure had a gable type roof, corrugated iron sheet roofing, and vertical board siding.

Structure 14. A granary of frame construction with an open side aisle. The walls of the granary were of slatted wood. The side wall of the drive through was vertical board siding. The structure had a gable roof with corrugated iron sheet roofing.

Structure 15. A machine shed of frame construction. This building had a rectangular plan form and a gable roof of corrugated iron sheet roofing. The siding material was vertical boards. Entrance was through the gable end.

Structure 16. A colony type coop of frame construction. This structure had a rectangular plan form and a shed roof with corrugated iron sheet roofing. Siding was of vertical boards.

Structure 17. A colony type coop of frame construction. This structure had a rectangular plan form and a shed roof with corrugated iron sheet roofing. Siding was of vertical boards.

The standing structures of this farmstead were standard functional and structural types. They were typical of late nineteenth and early twentieth centuries.

Significance of Standing Resources

None of the farmsteads or standing structures in the Northfield were unique or architecturally significant. Furthermore, the farmsteads or standing structures do not meet the criteria for nomination to the NRHP.

Plate 1

21C4-14

A. Expanded Stemmed, Archaic, Cobden chert
B. Godar, Middle Archaic, glacial redeposited chert
C. Cypress, Variety A, Late Archaic-Early Woodland, Blair chert
D. Cypress, Variety A, Late Archaic-Early Woodland, glacial Burlington chert
E. Cypress, Variety A, Late Archaic-Early Woodland, glacial redeposited chert
F. Body sherd, Woodland
G. Cross-hatched sherd fragment, Middle Woodland
H. Motley-like, Woodland, Kinkaid chert
I. Expanded stemmed, Woodland, Blair chert
J. Expanded stemmed, Woodland, Cobden chert
K. Side notched, reworked, Woodland, glacial Burlington chert
L. Corner notched, Late Woodland, Blair chert
M. Side notched, Late Woodland, Blair chert
N. Side notched, Late Woodland, Blair chert
O. Raymond cordmarked, Late Woodland
P. Raymond cordmarked, Late Woodland
Q. Cordmarked, Late Woodland
R. Cordmarked, Late Woodland
S. Cordmarked, Late Woodland
T. Raymond cordmarked, Late Woodland
U. Raymond cordmarked, Late Woodland
V. Cordmarked, Late Woodland
W. Raymond cordmarked, Late Woodland
X. Cordmarked, Late Woodland
Y. Cordmarked, Late Woodland
Z. Ironstone, unidentified maker, Historic
$A^1$. Whiteware, Alfred Meakin Company, Tinstail, England (1881 est.), Early Agricultural

21C4-25

$A^2$. Expanded stemmed, reworked distal end, Woodland, glacial Burlington chert
$A^3$. Motley-like, Woodland, glacial redeposited chert

21C4-26

$A^4$. Expanded stemmed, Woodland, Blair chert

21C4-27

$A^5$. Crab Orchard fabric impressed sherd, Middle Woodland
$A^6$. Whiteware, Dresden China, Brunt, Bloor, Matin and Company (post-1875), Early Agricultural

Plate 1

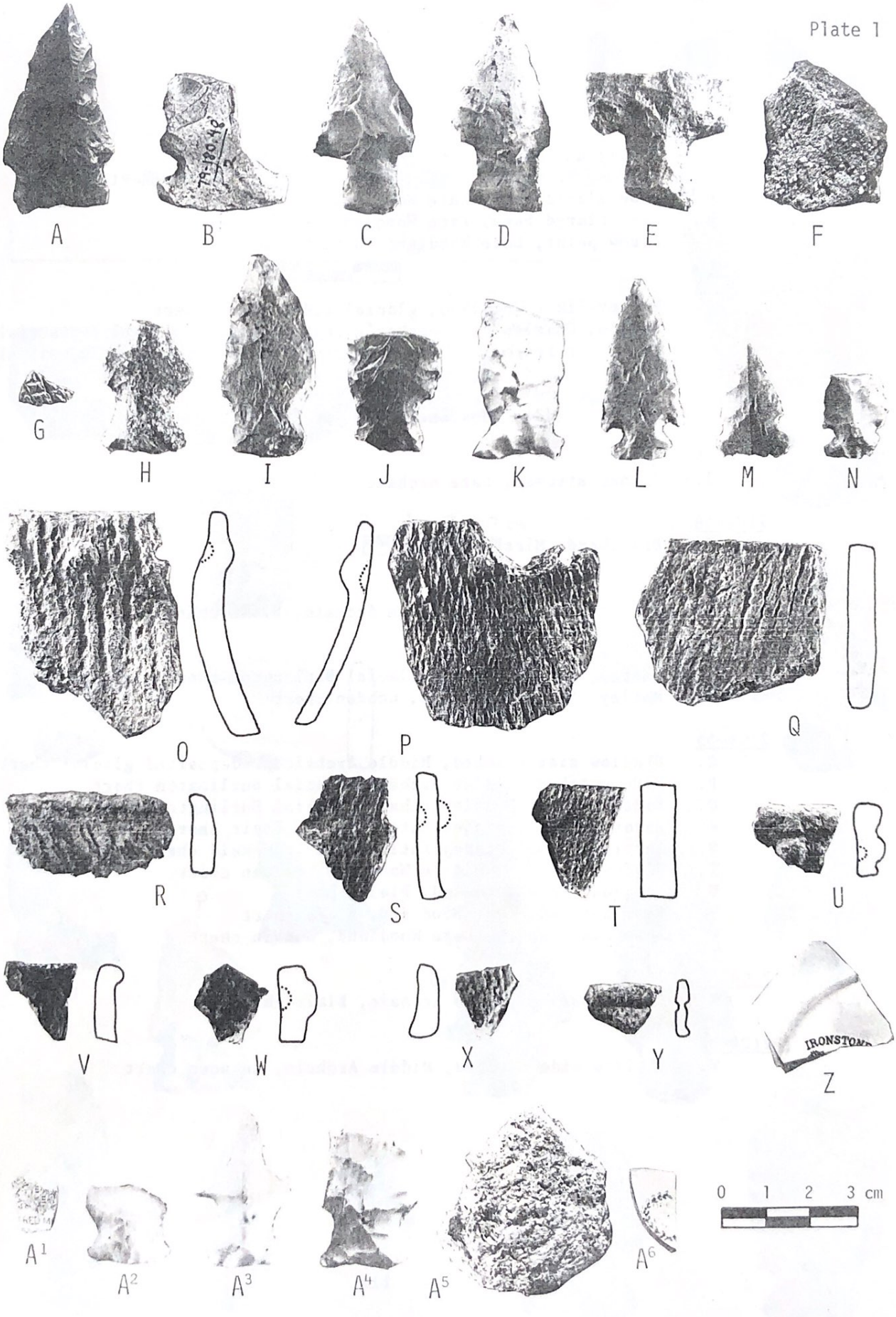


Plate 2

21C4-29

A. St. Albans, Early Archaic, Blair chert
B. Stemmed, reworked, affiliation unknown, Cobden chert
C. Lowe flared base, Late Woodland, Kinkaid chert
D. Lowe flared base, Late Woodland, Blair chert
E. Arrow point, Late Woodland, Cobden chert

21C4-34

F. Motley-like, Woodland, glacial redeposited chert
G. Bottle, Charles H. Fletcher's Castoria, Agricultural/Industrial
H. Fruit jar fragment, Drey Perfect Mason, Agricultural/Industrial

21C4-44

I. Motley, Middle Woodland, Fern Glen chert

21C4-45

J. Karnak stemmed, Late Archaic

21C4-46

K. Rim sherd, Mississippian

21C4-51

L. Saratoga broad blade, Late Archaic, Blair chert

21C4-53

M. Thebes, Early Archaic, glacial Burlington chert
N. Motley, Middle Woodland, Cobden chert

21C4-55

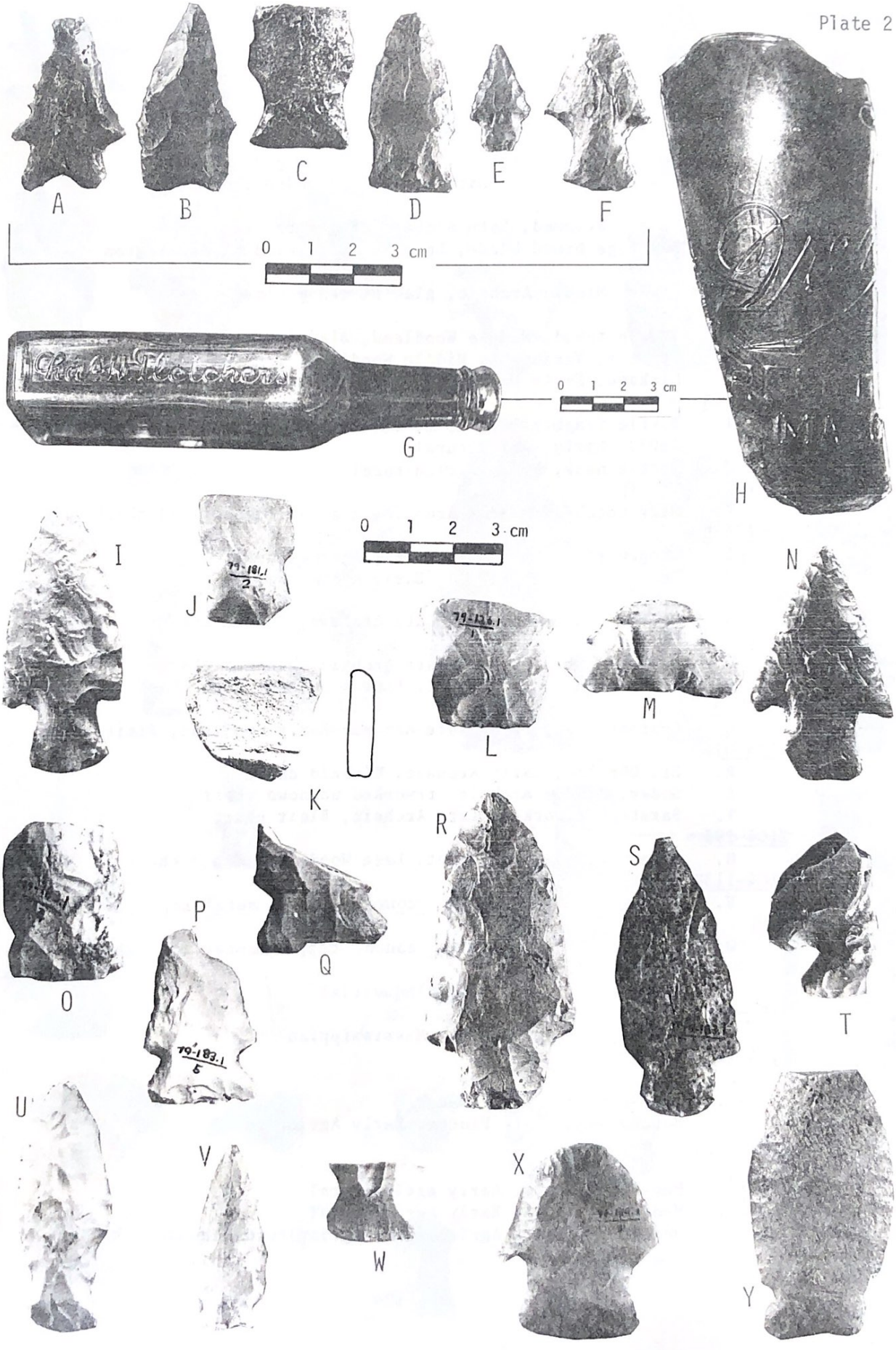
O. Shallow side notched, Middle Archaic, redeposited glacial chert
P. Side notched, Middle Archaic, glacial Burlington chert
Q. Side notched, Middle Archaic, glacial Burlington chert
R. Saratoga broad blade, Late Archaic, Blair chert
S. Saratoga broad blade, Late Archaic, Kinkaid chert
T. Snyders Affinis, Middle Woodland, Cobden chert
U. Schilds, Late Woodland, Blair chert
V. Side notched, Late Woodland, Blair chert
W. Lowe flared base, Late Woodland, Cobden chert

21C4-56

X. Hardin barbed, Early Archaic, Blair chert

21C4-57

Y. Shallow side notched, Middle Archaic, unknown chert


A
B
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E
F
0 1 2 3 cm
G
0 1 2 3 cm
H
I
J
79-181.1
2
0 1 2 3 cm
K
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79-126.1
1
M
N
O
P
79-183.1
5
Q
R
S
T
U
V
W
X
Y

Plate 3

21C4-57

A. Godar, Middle Archaic, glacial Burlington chert

B. Lowe flared base, Late Woodland, Cobden chert

21C4-60

C. Karnak stemmed, Late Archaic, Blair chert

D. Saratoga broad blade, Late Archaic, glacial Burlington chert

21C4-67

E. Godar, Middle Archaic, glacial redeposited chert

21C4-69

F. Side notched, Middle Woodland, Blair chert

G. Cypress, Variety A, Middle Woodland, unknown chert

H. Dickson, Early Woodland

21C4-72H

I. Bottle fragment, Adolphus Busch Glass Company, St. Louis (1886-1907), Early Agricultural

J. Bottle neck, Early Agricultural

21C4-77

K. Side notched, Middle Archaic, glacial redeposited chert

21C4-83H

L. Stoneware, Late Pioneer/Early Agricultural

M. Stoneware, Late Pioneer/Early Agricultural

21C4-85

N. Marcos corner notched, Late Archaic, Cobden chert

21C4-87

O. Saratoga broad blade, Late Archaic, Kinkaid chert

P. Side notched arrow point, Late Woodland, Elco chert

21C4-90

Q. Cypress, Variety A, Late Archaic-Early Woodland, Blair chert

21C4-92

R. St. Charles, Early Archaic, Kinkaid chert

S. Godar, Middle Archaic, reworked unknown chert

T. Saratoga reworked, Late Archaic, Blair chert

21C4-103

U. Side notched arrow point, Late Woodland, Blair chert

21C4-113H

V. Porcelain, handpainted, zoned, purple metallic, Agricultural/Industrial

W. Porcelain, handpainted, zoned, copper metallic, Agricultural/Industrial

X. Whiteware, Agricultural/Industrial

21C4-122

Y. Triangular arrow point, Mississippian

21C4-125

Z. Whiteware, Late Pioneer

$A^1$. Bottle neck, Late Pioneer

$A^2$. Bottle neck, Late Pioneer/Early Agricultural

21C4-127H

$A^3$. Medicine bottle, Early Agricultural

$A^4$. Medicine bottle, Early Agricultural

$A^5$. Whiteware, Early Agricultural-Agricultural/Industrial

A
B
C
D
E
F
G
H
I
J
0 1 2 3 cm
K
L
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O
P
Q
R
U
Y
0 1 2 3 cm
V
Z
S
W
A1
T
X
A2
A3
A4
A5
0 1 2 3 cm

Plate 4

21C4-127H

A. National Brotherhood of Operative Potters (1929-1934), Agricultural/Industrial
B. Mary Du--, Superior Dinnerware, unidentified maker (post-1900s), Agricultural/Industrial
C. Chester City Dairy, Chester, Illinois, Agricultural/Industrial

21C4-128H

D. Whiteware, Early Agricultural
E. Whiteware, Knowles, Taylor, Knowles (1853-1934), Early Agricultural-Agricultural/Industrial
F. Stoneware, glazed, Agricultural/Industrial
G. Medicine bottle, Agricultural/Industrial
H. Lydia E. Pinkham's medicine bottle, Agricultural/Industrial

21C4-131

I. Godar, Middle Archaic, glacial Burlington chert

21C4-132

J. Bottle fragment, Hoods Saspa..., Sasparilla (1800s), Early Agricultural
K. Bottle neck, Early Agricultural
L. Bottle neck, Early Agricultural
M. Bottle neck, Early Agricultural
N. Bottle fragment, Early Agricultural
O. Bottle neck, Early Agricultural
P. Cup fragment, porcelain, Historic

A
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G
H
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J
K
L
M
N
O
P
0 1 2 3 cm

Plate 5

21C4-135H

A. Stoneware mixing bowl, Early Agricultural-Agricultural/Industrial
B. Medicine bottle, Dr. W. B. Caldwell's Syrup, pepsin bottle, Agricultural/Industrial
C. Cream bottle, Quality Dairy, Pinckneyville, Illinois, Agricultural/Industrial
D. Cream bottle, Hillers Brothers Dairy, Springfield, Illinois, Agricultural/Industrial

21C4-138H

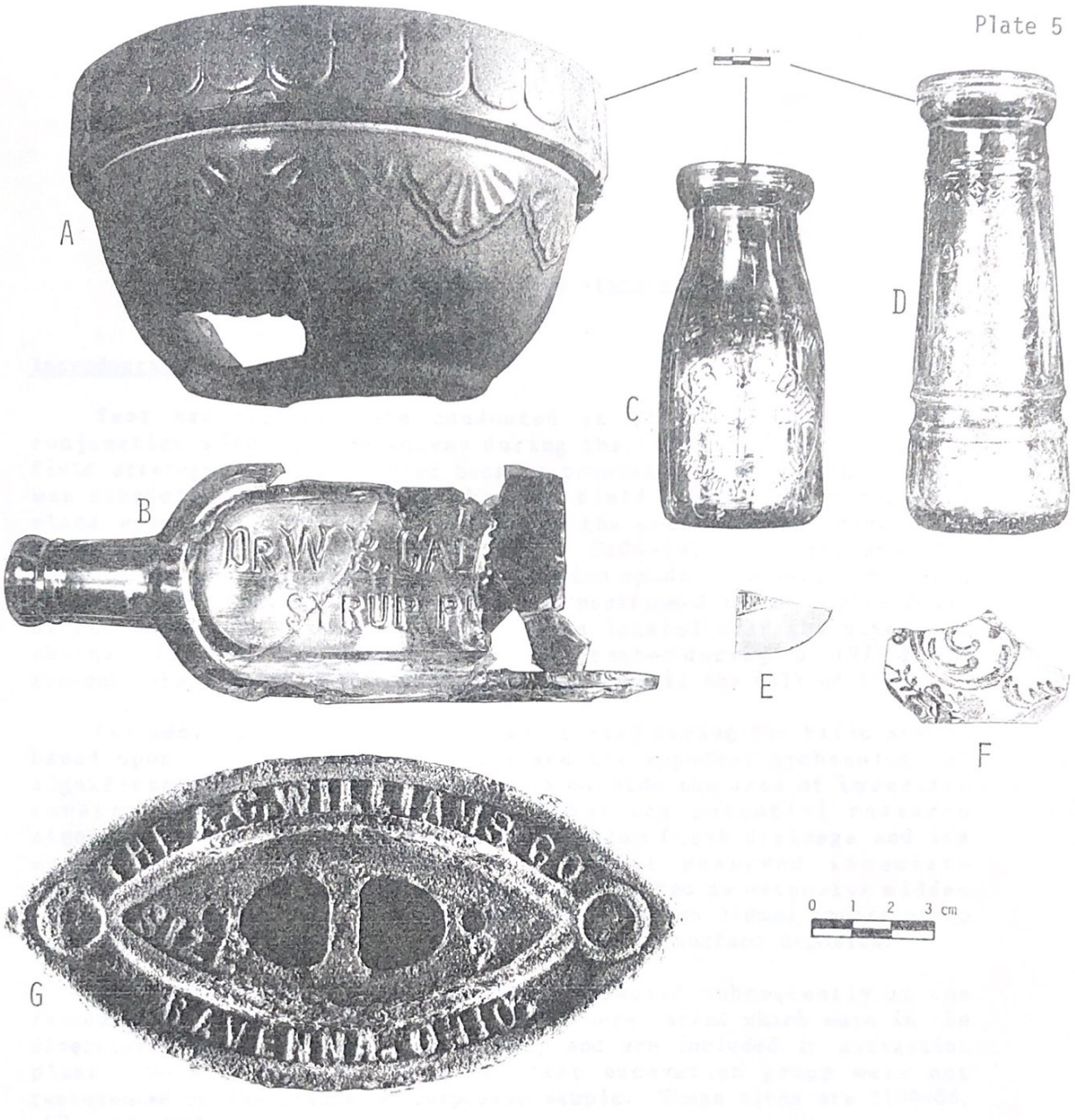
E. Whiteware, Shenango China Company, New Castle, Pennsylvania (nineteenth century), Early Agricultural-Agricultural/Industrial

21C4-139H

F. Whiteware, Early Agricultural (?)

21C4-143H

G. Flat iron, A. C. Williams Company, Ravenna, Ohio, Agricultural/Industrial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0 1 2 3 cm

## TEST EXCAVATIONS: 1979 FIELD SEASON

### Introduction

Test excavations were conducted at 13 prehistoric sites in conjunction with surface survey during the 1979 field season. This field strategy was implemented because premining construction activity was scheduled to begin before the 1980 field season, and mitigation plans were needed for various sites in the construction area. Four sites are near the diversion channel: 21C4-29, -55, -58, and -59. Seven sites are near haul roads and service roads: 21C4-65, -66, -85, -87, -97, -98, and -109. Site 21C4-27 is positioned in the right-of-way of the powerline corridor. Three sites located near the diversion channel, 21C4-56, -57, and -110, were not tested during the 1979 field season. These sites were not to be impacted until the fall of 1980.

One additional site, 21C4-14, was tested during the field season based upon research considerations and the apparent archaeological significance of the site. This site is outside the area of immediate construction and mining activity, but its potential research significance in the Northfield and the Galum Creek drainage and its accessibility (Map 2) suggested that it deserved immediate consideration. The surface of the site indicated an extensive midden stain with a major Late Woodland component. It was deemed important to test the site and determine the extent of the subsurface deposits.

Seven of these tested sites were selected subsequently in the random sample. An additional three sites were tested which were in the diversion channel corridor right-of-way and are included in mitigation plans. Only three sites from the test excavation group were not represented in the random or purposive sample. These sites are 21C4-66, -97, and -109.

Several environmental strata are represented by the 13 excavated sites. Site 21C4-14 is the only habitation not within the context of all major vegetation zones which include bottomland, slope woodland, post oak flats, and prairie zones. Sites 21C4-24, -27, -29, -55, and -97 are located between 0 to 152 m from the nearest perennial stream. Sites 21C4-58, -59, -85, -98, and -109 are positioned between 183 m to 579 m from the nearest perennial stream. Sites 21C4-65, -66, and -87 are located between 610 m to 2,926 m from the nearest perennial stream.

A brief description of test excavations at each site is presented below. A short discussion is offered summarizing stratigraphy, cultural affiliation, artifact content, and artifact distributions at each site.

As indicated earlier, a complete tabulation of artifact group frequencies and individual artifact descriptions are available from American Resources Group, Ltd. Appendix A - Definition and Description of Prehistoric Artifact Groups and Appendix B - Definition and Description of Historic Artifact Groups are retained to assist the reader in understanding the terminology used throughout the report. These appendices include material from both surface collections and test excavations, and these data are only briefly summarized in the text below. Because surface collection of artifacts varied selectively, these data are biased and not comparable between sites. Therefore, only test excavated materials are employed in the discussion of artifact distributions, as they were collected with little variation from site to site.

## Sites

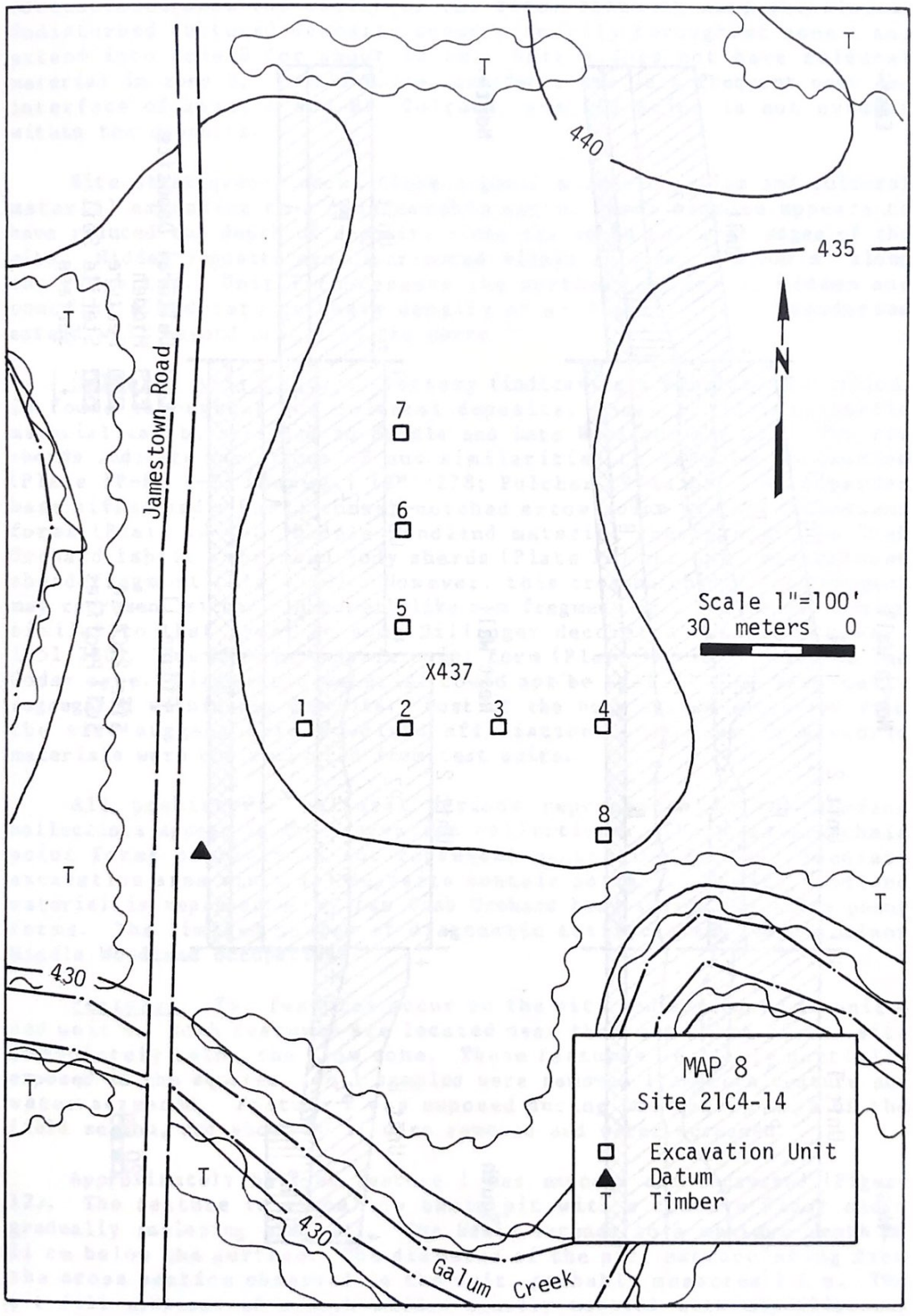
### Site 21C4-14

Site 21C4-14 is located in a slope woodland/bottomland forest context. The topographical position is a terminal ridge spur located between Galum and Bonnie creeks (Map 2). Three major streams which drain the project area join less than 100 m south of the site. Surface material includes moderate to heavy densities of ceramics, chert, glacial cobbles, sandstone, and limestone in association with dark midden staining. Bifaces and ceramics from the surface collections are representative of Middle Archaic, Middle Woodland, and Late Woodland occupations. In addition to prehistoric material, a light historic scatter was noted. Two diagnostic earthenware fragments suggest an Early Agricultural period occupation. The site is scheduled for destruction after 1985.

Test excavations were conducted during November and were terminated due to inclement winter weather conditions. Eight 1 m x 1 m squares were excavated, distributed over 6,300 $m^2$, or less than .1% of the site (Map 8).

Stratigraphy. Three major zones are present in the soil profiles (Figure 11). The plow zone varies in thickness from 20 cm below the surface along the sloping south and southwest site areas to 28 cm below the surface along the top of the ridge. The soil is a dark brown silt loam. Zone A underlies the plow zone ranging in thickness from 8 cm near the slopes to 20 cm on the ridge top. The soil consists of a dark brown to light yellow silty clay loam. Zone B is an orange-brown friable clay intermixed with a sticky, blocky yellow clay about 32 cm below the surface near the slopes and 65 cm below the surface on the ridge top.

Cultural deposits extend to a depth of 30 cm below the surface along the slopes and to 64 cm below the surface near the center of the site. The plow zone contains an extensive amount of artifacts and midden. Undisturbed midden deposits are present from 8 cm to 12 cm below the plow zone in the upper portions of soil zone A. The midden is


T
T
T
440
435
Jamestown Road
N
7
6
5
X437
1
2
3
4
8
Scale 1"=100'
30 meters 0
T
T
T
430
T
T
430
Galum Creek
MAP 8
Site 21C4-14
Excavation Unit
Datum
T Timber

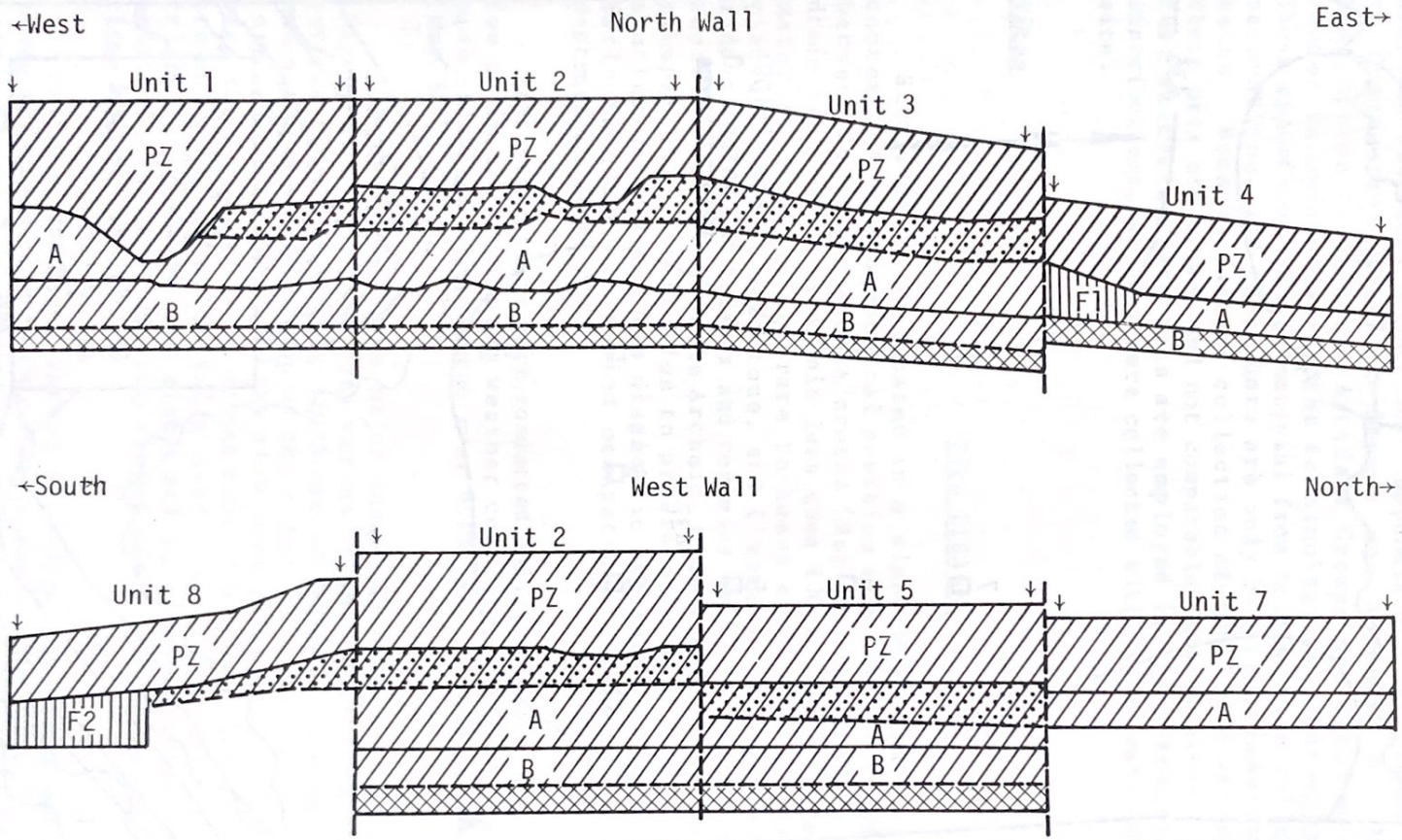



Figure 11

Site 21C4-14
Soil Profiles

concentrated near the center of the site, thinning near the slopes. Undisturbed cultural deposits occur primarily throughout zone A and extend into zone B for about 12 cm. Unit 4 does not have cultural material in zone B. In all units, artifacts are less frequent near the interface of zones A and B. Cultural statification is not evident within the deposits.

Site stratigraphy shows dense organic midden deposits and cultural material extending to a considerable depth. Soil erosion appears to have reduced the depth of deposits along the south and west edges of the site. Midden deposits are distributed within an area of 3,600 $m^2$ along the ridge top. Unit 7 represents the northern extent of midden and contains a moderate to heavy density of artifacts. Site boundaries extend well beyond unit 7 to the north.

Cultural Affiliation. Pottery (indicating a Woodland occupation) is found throughout the cultural deposits. Most of the diagnostic material can be assigned to Middle and Late Woodland periods. Ten rim sherds indicate variations of and similarities to Raymond cordmarked (Plate 1P-R, T-Y) (Maxwell 1951:278; Pulcher 1974a:85). An expanded base biface and a small corner-notched arrow point are Late Woodland forms (Plate 1J-L). Middle Woodland material consists of two Crab Orchard fabric impressed body sherds (Plate 1F) and one crosshatched sherd fragment (Plate 1G). However, this crosshatched sherd fragment may represent either a Hopewell-like rim fragment or a body sherd design similar to that found on some Dillinger decorated vessels (Maxwell 1951:280). One Middle Archaic point form (Plate 1B) is similar to the Godar type. Diagnostic material could not be spatially or vertically segregated within the deposits. Most of the body sherds recovered from the site suggest Late Woodland affiliations. Diagnostic historic materials were not recovered from test units.

All prehistoric cultural periods represented in the surface collections appear in the excavation collections. The Middle Archaic point forms probably do not represent occupation in the immediate excavation area since all deposits contain pottery. Middle Woodland material is represented by two Crab Orchard body sherds and three point forms. The limited number of diagnostic artifacts suggests a minor Middle Woodland occupation.

Features. Two features occur on the site and are found in unit 4 and unit 8. Both features are located near the west slope of the site immediately below the plow zone. These features were only partially exposed in the squares. Soil samples were removed from each feature and water screened. Feature 2 was exposed during the waning days of the field season, and about 20 li were removed and water screened.

Approximately half of feature 1 was exposed and excavated (Figure 12). The feature is a shallow basin pit with a concave floor and a gradually insloping sidewall. The basin extends to a maximum depth of 11 cm below the surface. The diameter of the pit, extrapolating from the cross section observed in the unit, probably measures 1.2 m. The pit fill consists of a dark midden densely mottled with miscellaneous

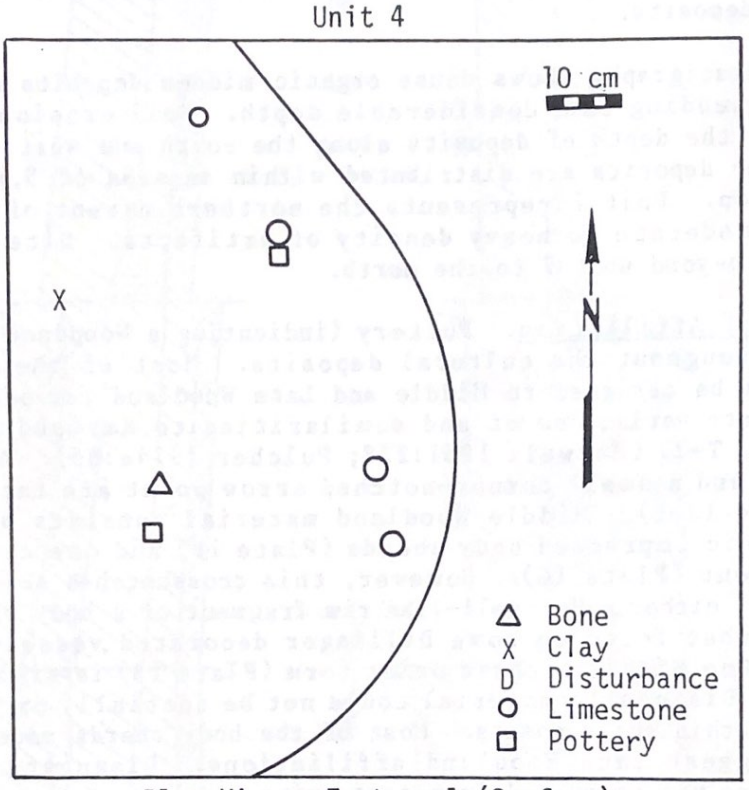



Figure 12

Feature 1,
Site 21C4-14

burned clay and limestone. Artifacts recovered from screening include 2 chert cores, 2 bifaces, 6 unifaces, 1 modified chert item, 97 unmodified chert debris, 84 ceramic fragments, 3 modified clay items, 777 pieces of miscellaneous clay, 147 unmodified stones, and 17 pieces of faunal and botanical material. The feature appears to be Late Woodland based on ceramics from the fill.

Faunal material includes 8 unidentified mammalian elements and 1 bone shaft fragment, 1 cervical vertebrate, and 1 sesamoid bone, all from genus Cervidae. One modified turtle shell fragment from Testudines chrysemys (pseudemys) and one modified deer proximal phalanx (distal) are identified. The modified deer bone is a perforated phalange with a hole drilled longitudinally between the condyles at the distal end. The modified turtle shell appears to be a container with the neural process and other internal processes removed and the interior and edges of the shell smoothed and rounded.

Four shell fragments are represented, of which two are identifiable. One specimen is from Leguma recta, and one item is from Ambelyma plucta. Unfortunately, soil samples were opened and damaged in the process of transportation, accounting for the absence of descriptive information about artifacts recovered from water screening.

Feature 2 is a shallow basin pit. Less than one fourth of the fill was exposed and removed (Figure 13). The pit has a concave basin with gentle insloping walls. The feature extends to a maximum depth of 18 cm below the plow zone. An estimate of pit diameter is not possible since the center of the pit terminates at the southeast corner of the unit. The fill consists of dark midden with a concentration of artifacts near the surface. All fill removed from the feature was water screened. The material recovered includes 1 biface, 67 lithic items, 168 ceramic fragments, 421 miscellaneous clay items, 412 unmodified stones, 666 botanical and faunal items, and 1 shell fragment. A rodent disturbance at the base of the pit contains four pieces of glass. Ceramics from the fill indicate a Woodland affiliation.

Five hundred seventy two bone elements are identified. Of these elements, 92 items are burned. Most elements are unidentifiable mammal bone (N=554). Other identified elements include 1 mammal tooth, 1 mammal claw, part of an astragulus from a white tailed deer (Odocoileus virginia), 2 rodent tooth fragments, 2 bird bone fragments, 7 turtle shell fragments, and 2 teleost cycloid fish scales. The shell item appears to be a fragment from a modern land snail. Botanical items include 1 walnut fragment (Juglans sp.) and 93 charred nut fragments from hickory (Carya sp.).

The two excavated features are very similar in form and content. Burning or fired clay was not observed along the pit margins. The high density of burned clay and limestone in the fill suggests that cooking activities occurred near the pit area. In general, the pit fill indicates trash deposits. Both pits are located near the outer margins of the midden deposit.

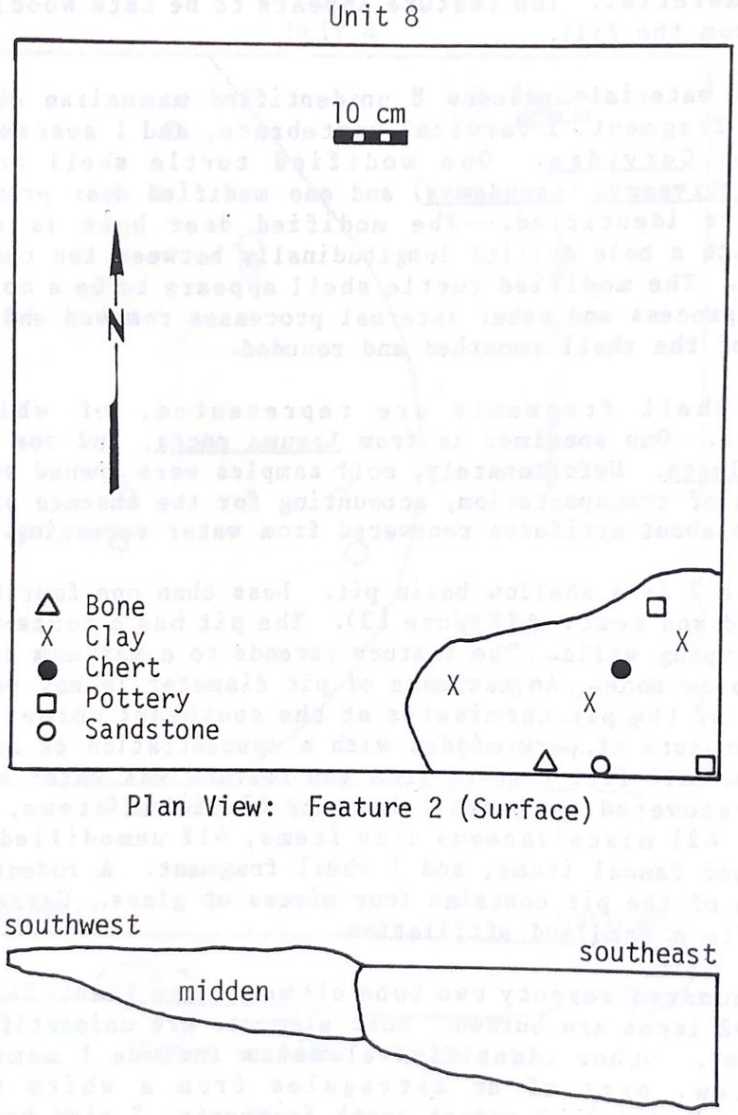



Figure 13

Feature 2,
Site 21C4-14

Prehistoric Artifacts

Lithics. Most lithic material consists of unmodified chert debris. Unifaces and modified flakes are the predominant tool forms, followed by bifaces. Five cores, ranging from small pebble-size forms to fist-size nodular forms, are present. The majority of these cores are flaked unidirectionally and retained cortical surfaces. The largest core is from the nodule of Kinkaid chert.

Bifaces (N=52) are primarily represented by fragmented items, followed by haft element types and forms without haft elements. All biface groups have primarily ovate and triangular forms. Ovate forms are most frequent among tools lacking a haft element. Triangular shapes appear frequently among tools with haft elements. Pointed bifaces are considerably smaller than plain bifaces. Bifaces with haft modifications have much thinner midsections than bifaces without haft modifications. Plain bifaces have a wider range of standard deviations for biface size than pointed bifaces and bifaces with haft elements. The latter two bifacial groups appear to be finished implements representing final stages of tool manufacture. Cortex is absent from the majority of specimens. Reworked bifaces are infrequent and are represented primarily by end retouched specimens. Although Kinkaid chert has been identified, nonlocal chert is not well represented. Most pointed bifaces with haft elements are side notched with expanding stems and straight or convex bases. Corner-notched and straight stems also are represented.

Unifaces (N=73) include eight modification types characterized by end retouch and unilateral retouch. Other edge types are bilateral, end lateral, notched, burinated, nosed, and pointed. The flake length ranges from 15 mm to 31 mm but is concentrated within the 16 mm to 18 mm interval. The end lateral retouched tool is larger than other unifaces, suggesting the selection of larger flakes for tool modification. Blade-like forms are rare, with most flakes being relatively wide, expanding specimens. Most tools are made on relatively thin flakes ranging between 2 mm and 6 mm in thickness. Tool margins are primarily irregular. About 50% of the specimens have cortex suggesting that some tools are being manufactured from blanks at the site. Cobden chert is the most frequently used nonlocal chert.

Modified flakes/chunks (N=25) include mainly multiple-flaked specimens. These tools are within the size range of unifaces and are represented by end, bilateral, and unilateral modifications. Three bifacially retouched flakes are present, made from slightly larger flakes with cortex. Cobden is the predominant chert type. Three polished flakes are recognized which are relatively small, thin, and made from Mill Creek chert.

Unmodified flakes (N=1,393) are represented primarily by interior flakes followed by secondary and primary decortication flakes. In all classes, flake size is more frequent in the 1/2 in. to 1/4 in. interval, followed by 1 in. to 1/2 in. Cobden chert is the most frequent identifiable chert, followed by local glacial/quartzitic material and

Kinkaid chert. Mill Creek, Type C, and Bailey cherts also are represented. Shatter/chunks follow the same size pattern previously mentioned for flakes and contain twice as many noncortex specimens as cortical specimens.

Ceramics. Approximately 5,735 pottery and clay items were recovered from the site. Rim sherds (N=21) represent variations of the Raymond cordmarked type. Straight and smooth lips are common. Convex and beveled lips are moderately represented as well as one rolled lip. Lip thickness ranges between 2.4 mm and 6.6 mm, with most items occurring within the 4 mm to 6 mm range. Rim forms are primarily outflaring and straight, while incurvate forms are infrequent. Rim thickness ranges between 3 mm and 9 mm, with most items in the 3 mm to 6 mm interval. Grit and grit/grog are the prominent temper types. Surface texture is both grainy and smooth, and most surface exteriors are cordmarked. Both node decoration on the rim exterior and cord-impressed or stick-impressed lips are found on a few specimens.

Body sherds (N=3,638) are represented mainly by cordmarked exteriors with a 4:1 ratio over plain exteriors. Thicknesses for both types are fairly similar, ranging between 4 mm and 6 mm. Most interior surfaces are smooth. Grit and grit/grog are the dominant temper types. Shell and limestone are rarely used as temper. Nodes, punctates, incised lines, and crosshatching are decorations found on a few specimens.

Clay items (N=2,076) are comprised mainly of miscellaneous clay; daub, which occurs lightly; and seven smooth clay fragments. One smooth clay fragment has exterior surface incisions.

Modified Stone. Modified stone tools (N=29) include high frequencies of utilized glacial cobbles, including planar-faced tools, followed by battered-crushed, planar-concave, and grooved modifications. It is noteworthy that pitted stones are absent. One quartzite core indicates quartzite flake production.

Unmodified Stone. This category contains the greatest frequency of material (N=4,218) from the site. Limestone and igneous/metamorphic rock are three times more frequent than other stone groups. Both sandstone and other sedimentary rock are infrequent, totaling less than 26% of the total inventory.

Modified Bone. As previously mentioned, a perforated phalange and modified turtle carapace are represented from feature 1.

Unmodified Bone/Botanical Remains. In addition to the 585 identified elements from features, 551 identifiable elements are represented from the general site deposits. Of this bone total, 210 elements are burned. Unidentifiable mammal bone fragments total 504 items. Other mammal bones include 14 deer bones, 1 mole bone, and 1 human tooth fragment. Deer bones consist of 6 tooth fragments, 3 miscellaneous bones, 1 sesamoid bone, 1 suture line of a frontal bone from a skull, 1 tarsal fragment (T2 and 3), 1 first left rib, and 1

proximal articular surface of a distal phalanx. The mole bone is a distal half of a humerus from Scalopus aquata. The human tooth is part of a crown from a molar.

Thirteen elements are from the order Testudines. Ten elements are carapace fragments, and two elements are marginal carapaces; one item is identified as a box turtle (T. terrapene). Also, one proximal end of a right humerus from a pond turtle is represented. Two snake vertebrae from the order Colubridae represent the only other reptilian species.

Two bird bone fragments and a fish vertebra also are present. In addition, two elements are identified as articular surfaces of a phalanx and a carpal bone from either a mammal or turtle. The only recent and intrusive elements in the faunal inventory include three tooth fragments from a domestic pig. Twelve charred nutshell fragments are identified as hickory nuts.

Historic Artifacts

Ceramics. The historic ceramic inventory includes 2 stoneware fragments, 15 earthenware fragments, and 1 unidentifiable piece of burned stoneware. Material did not display design elements, and the cultural affiliation is unknown.

Glass. This sample includes 2 curved and 17 fragmented pieces of flat glass. Surface decorations are not observable.

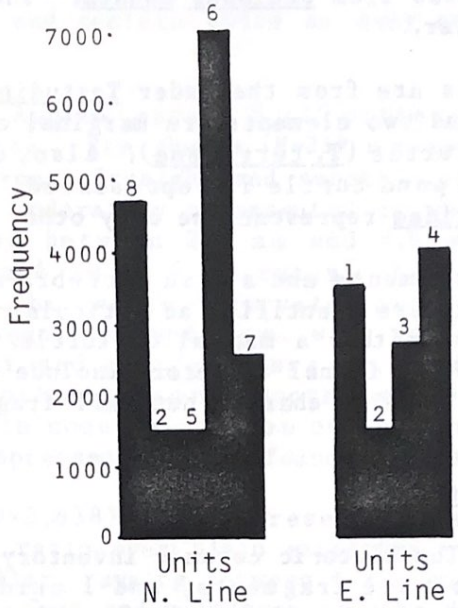
Metal. This category includes 8 nails and 44 unidentified bulk metal. Two complete metal artifacts also are present. One specimen is a square head bolt, and the other item is a decorative tang, possibly from a piece of clothing or a shoe. This latter item is constructed of iron and copper.

Historic Site By-Products. Building and habitation by-products include brick fragments, a wall board fragment, mortar, and cinders.

Prehistoric Artifact Distribution. Total artifact densities revealed two site areas with high concentrations of material (Chart 2). High densities occur on the southeast corner of the site in unit 4 and unit 8 and along the western borders in unit 1 and unit 6 (Map 8). The area within the middle of the ridge spur in units 2, 3, and 5 contains fewer artifacts. The southeast artifact concentration is associated with the two features. There is the possibility of slope wash in this area. The artifact concentration in units 1 and 6 is associated closely with the midden deposits. The decreasing frequency of deposits in unit 7 indicates that the artifact concentration might be thinning out near the northern margins of the excavation area (Map 8).

Summary. The site appears to be an extensive Late Woodland occupation with a minor Middle Woodland occupation. The Middle Woodland occupation could not be spatially separated from the Late Woodland deposits. Midden deposits are rather deep and associated with heavy

Chart 2. Artifact Density per Cubic Meter, Site 21C4-14




artifact densities. Further, artifacts extend well below the midden level. The presence of subsurface features also suggests the presence of significant habitation. Large quantities of clay, including grass and twig impressed daub, denote the possible presence of structural features. The diversity of cultural material indicates a multitude of potential activities. Important subsistence data, reflective of excellent preservation conditions, is suggested by the presence of mammal, reptile, bird, fish, shell remains, and nut shell. The site provides an opportunity to view a major Late Woodland occupation on upper Galum Creek with extensive, undisturbed cultural deposits.

Historic materials recovered from test excavations indicate a historic habitation at this location. Glass, nails, bricks, and other construction materials further suggest the presence of a structure. A large quantity of domestic debris was not recovered from test excavations, although a moderate scatter is observable on the surface. Most historic material is from the plow zone in units 1, 2, and 3 which extend east and west across the southern portion of the ridge (Map 8). The site is tentatively assigned to the Early Agricultural period.

## Site 21C4-27

The site is positioned on a terminal ridge spur near the juncture of Galum, Bonnie, and Rock Fork creeks. It is located southwest of site 21C4-14 across Galum Creek (Map 2). Initial surface observations indicated light scatters of chert, glacial cobbles, and a moderate scatter of historic debris. Ceramics from the surface reflect a Middle Woodland occupation. The site is located in the powerline corridor scheduled for construction during September of 1979.

During September of 1979, test excavations were conducted within a 6,600 $m^2$ area. Seven 1 m x 1 m units were excavated, providing a .1% sample (Map 9).

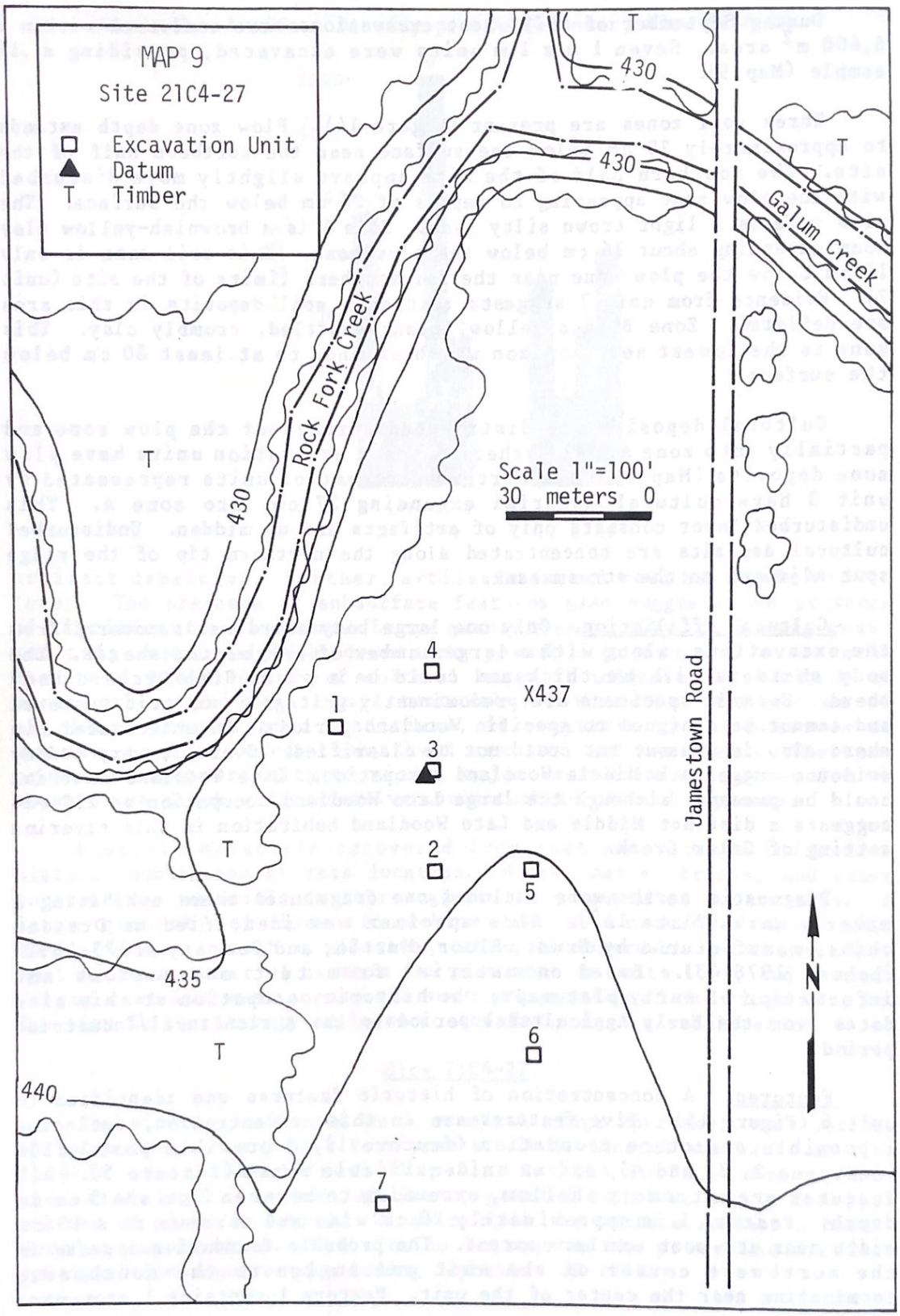
Three soil zones are present (Figure 14). Plow zone depth extends to approximately 20 cm below the surface near the northern half of the site. The southern half of the site appears slightly more disturbed with the plow zone appearing to depths of 28 cm below the surface. The plow zone is a light brown silty loam. Zone A is a brownish-yellow clay loam extending about 36 cm below the plow zone. This soil zone is only 10 cm below the plow zone near the far southern limits of the site (unit 7). Evidence from unit 7 suggests that most soil deposits in this area are deflated. Zone B is a yellow, orange-mottled, crumbly clay. This zone is the lowest soil horizon which extends to at least 80 cm below the surface.

Cultural deposits are distributed throughout the plow zone and partially into zone A. All other southern excavation units have plow zone deposits (Map 9). The northern excavation units represented by unit 3 have cultural material extending 27 cm into zone A. This undisturbed layer consists only of artifacts and no midden. Undisturbed cultural deposits are concentrated along the northern tip of the ridge spur adjacent to the stream bank.

Cultural Affiliation. Only one large body sherd was recovered from the excavations, along with a large number of fragmented sherds. The body sherd is 11.1 mm thick and could be a plain Crab Orchard body sherd. Ceramic specimens are predominantly grit/grog and grit tempered and cannot be assigned to specific Woodland periods. An undecorated rim sherd also is present but could not be classified. Overall, very scanty evidence suggests a Middle Woodland occupation. Late Woodland material could be present, although the large Late Woodland occupation on 21C4-24 suggests a distinct Middle and Late Woodland habitation in this riverine setting of Galum Creek.

Diagnostic earthenware included one fragmented sherd exhibiting a maker's mark (Plate $1A^6$). This specimen was identified as Dresden china, manufactured by Brunt, Bloor, Martin, and Company (1875-1892) (Lehner 1978:43). Based on material from test excavations and information of early plat maps, the historic occupation at this site dates from the Early Agricultural period to the Agricultural/Industrial period.

Features. A concentration of historic features was identified in unit 6 (Figure 15). Five features are in this concentration, including 1 possible structure foundation (feature 1), 3 possible post molds (features 2, 3, and 4), and an unidentifiable stain (feature 5). All features are extremely shallow, extending to between 2 cm and 5 cm in depth. Feature 1 is approximately 20 cm wide and narrows to a 10 cm width near its most southern extent. The probable foundation appears in the northwest corner of the unit and angles to the southeast, terminating near the center of the unit. Feature 1 contains 1 stoneware


MAP 9
Site 21C4-27
Excavation Unit
Datum
T Timber
T
430
430
Galum Creek
Rock Fork Creek
T
430
Scale 1"=100'
30 meters 0
4
X437
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3
Jamestown Road
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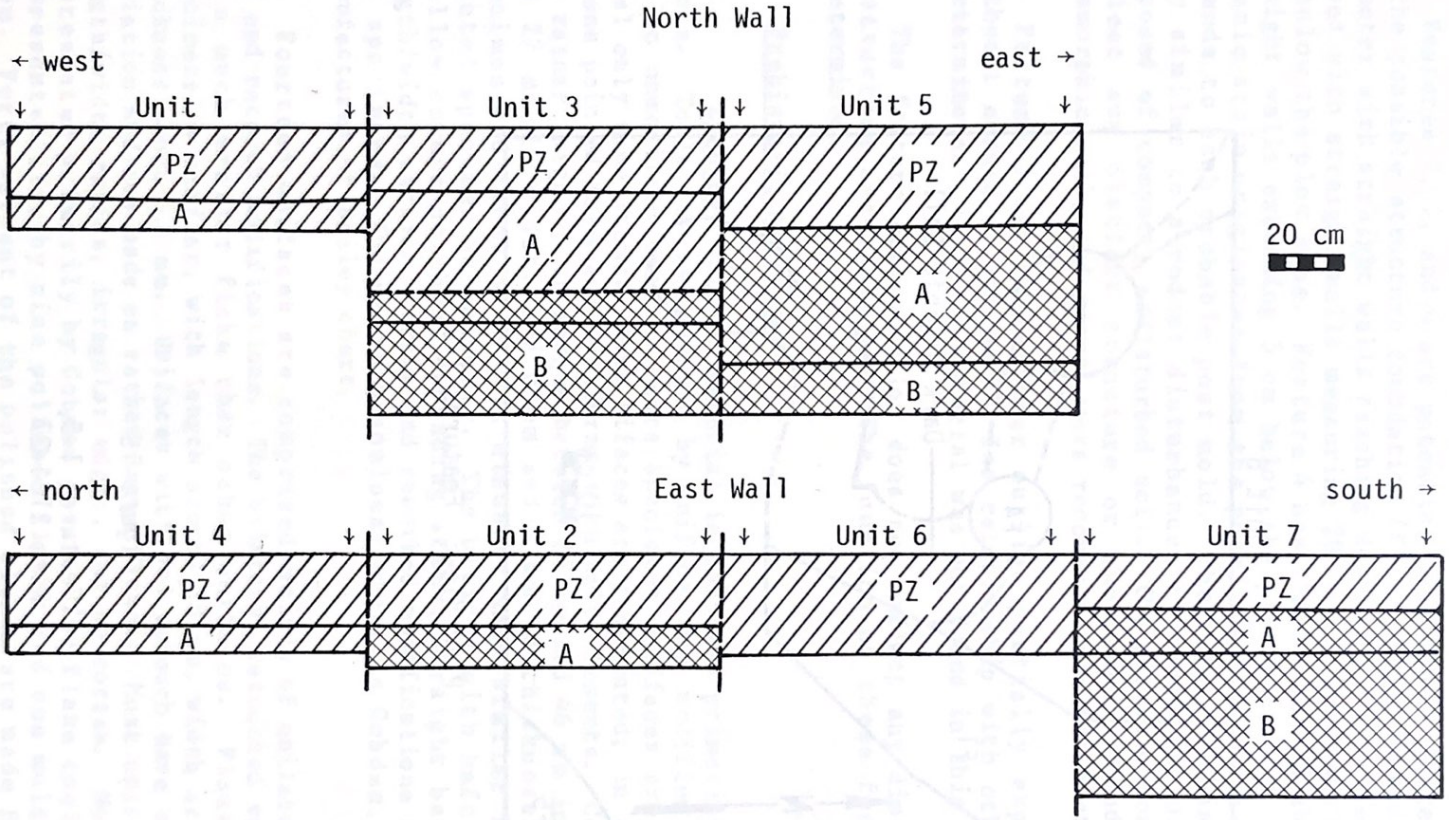
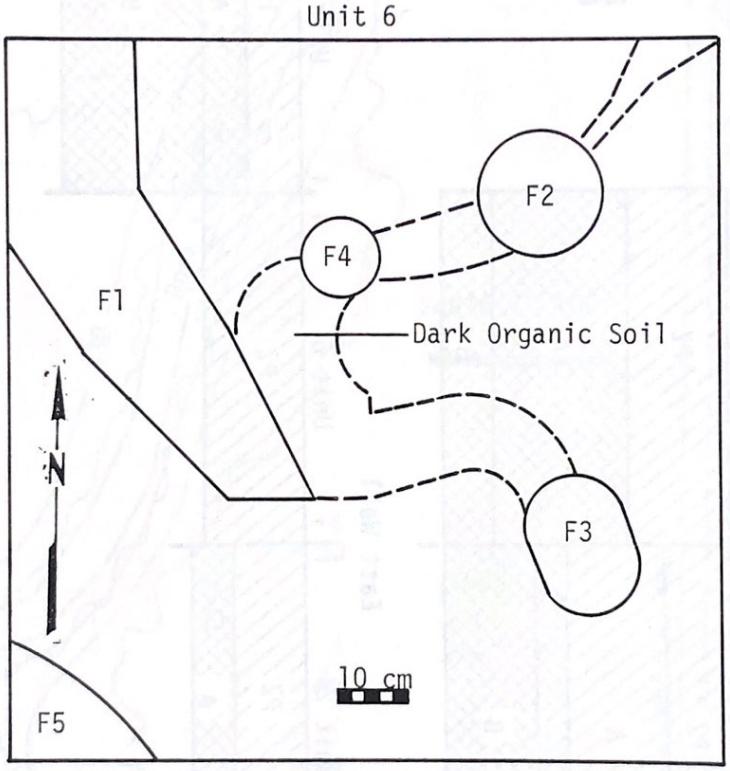



Figure 14

Site 21C4-27
Soil Profiles




Plan View: Features 1-5

Figure 15

Features 1-5,
Site 21C4-27

fragment, 3 flat glass fragments, 5 pieces of fragmented glass, 2 nails, 5 miscellaneous metal items, and 9 historical site byproducts.

Features 2, 3, and 4 are potential post molds clustered to the east of the possible structure foundation (Figure 15). Feature 2 is 13 cm in diameter with straight walls reaching depths of 5 cm. Feature 3 is oval shaped with straight walls measuring 20 cm by 12 cm and extends about 3 cm below the plow zone. Feature 4 has a diameter of about 10 cm with straight walls extending 5 cm below the plow zone. An irregular, dark organic stain originates from the possible structure foundation and extends to each probable post mold. The shape of this stain appears very similar to a rodent disturbance, although the organic fill is composed of compact, undisturbed soil. The probable post molds do not reflect any distinct structure or enclosure. Cinders, igneous/metamorphic rock, and gravel were recovered from the feature fill.

Feature 5 has curvilinear outline partially exposed near the southeast corner of the unit. Its relationship with other features is indeterminate. Cultural material was not found in this feature.

The feature concentration does not reflect any distinct structure or structure associations. The function of these features remains undetermined.

Prehistoric Artifacts

Lithics. Lithic material is composed primarily of unmodified debris. Tools are represented by unifaces and modified flakes. There are no unmodified chert or core specimens. Bifaces are infrequent and total only nine items. Most bifaces are fragmented; in addition, there is one pointed form and two forms with haft elements. Complete bifaces are rather large, with ranges between 36 mm and 46 mm in length, 15 mm and 27 mm in width, and 8 mm and 9 mm in thickness. The pointed specimen and items with haft elements have similar forms, but the pointed specimen is narrower. The bifaces with haft elements have shallow corner notches, expanding stems, straight bases, and small length/width ratios. Cortex and reworked modifications are absent from all specimens. The primary nonlocal chert is Cobden, with one tool manufactured of Bailey chert.

Fourteen unifaces are comprised mainly of unilateral, bilateral, and end retouch modifications. The bilateral retouched specimen is made on a much smaller flake than other unifaces. Flake size between specimens is similar, with length around 18 mm, width around 18 mm, and thickness about 4.5 mm. Unifaces with end retouch have very little size variation and are made on rather large flakes. Most unifaces have small length/width ratios, irregular edges, and no cortex. Nonlocal chert is represented primarily by Cobden chert. The flake tool assemblage is represented also by nine polished flakes and one multiple retouched item. Forty percent of the polished flakes are made from Mill Creek chert. The multiple retouched specimen has unilateral and end retouch modifications and is made from Cobden chert. This flake tool is larger than all other unifaces in the tool inventory.

Unmodified flakes (N=251) are composed primarily of interior specimens with only 12% exhibiting cortex. Flake size concentrates within the 1/2 in. to 1/4 in. interval, followed by the 1 in. to 1/2 in. interval. Among all identified chert materials, Cobden is the predominant type, closely followed by local glacial and quartzitic material. Other nonlocal material includes Kinkaid and Kaolin cherts.

Ceramics. Only one unclassified rim sherd was recovered; it had a thin, convex, and rounded lip. Rim form is outflaring, and the exterior surface is cordmarked. Temper type is grit/grog, and the walls are thin. Body sherds are represented by 99 specimens, including 98 fragmented items. The articulated item is probably a plain Crab Orchard sherd. Most sherds have grit/grog temper followed respectively by grit and grog temper types. Miscellaneous clay includes 60 clay items and 1 piece of daub.

Modified Stone. This material class is infrequent and only contains three items: pitted stone, planar-faced stone, and quartzite flake. The planar-faced tool is fist-size, while other items are fragmented.

Unmodified Stone. The unmodified stone totals 405 items, with igneous/metamorphic material accounting for about 50% of the total inventory. Sandstone represents 30% of the total, and limestone and other sedimentary rock are infrequent.

Unmodified Bone/Botanical Remains. Six unidentifiable mammal elements are represented from the excavations. Seven charred nut fragments are present comprised of pignut hickory (Carya glabra) and hickory.

Historic Artifacts. A larger quantity of historic material was located in unit 6 (N=535) in contrast to the other units excavated. This material includes several diagnostic ceramics and glass in addition to large quantities of fragmented glass, unidentifiable metal fragments, and construction materials.

Ceramics. Ceramic artifacts recovered from the plow zone are 1 porcelain and 2 earthenware rims, both undecorated; 3 raised relief rims in a floral pattern with 1 item edged in green; and 1 handpainted body sherd. The handpainted sherd displays a floral design in red and green which is very similar to a handpainted body sherd located on the surface of the site. A raised relief design element is a motif popular between 1830 and 1860 (Lofstrom 1976:29-32). One undecorated earthenware body sherd (Plate 1A[6]) is identified as Dresden china, a product of Brunt, Bloor, Martin, and Company, based on a partial maker's mark. This company was in operation during the late nineteenth century (Kovel and Kovel 1979:180). In addition to the diagnostic material, 27 fragments of earthenware and 3 fragments of porcelain also were recovered.

Glass. One diagnostic bottle fragment collected from the plow zone is assigned a post-1850 production date based on construction

method of the lip. A single glass bead (blue) and button (white) were also found, although no date can be assigned to either.

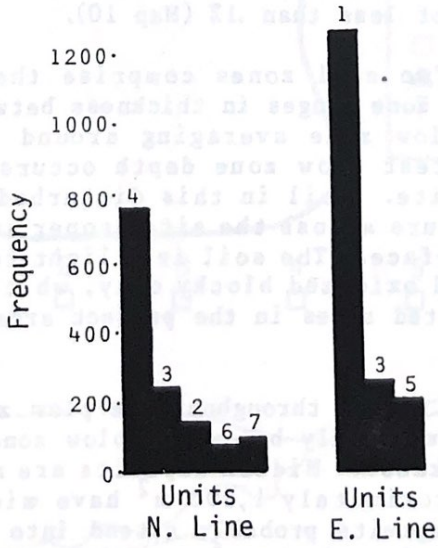
Fifteen fragments of curved glass represent 5% of the miscellaneous glass sample. The mean thickness for the flat glass (N=9) is 2.3 mm, while the curved glass is 2.6 mm. Fragmented glass totals 87 items (95%). All glass types include a variety of colors, with clear or green occurring most frequently.

Metal. Identifiable metal includes 6 fragmented nails, 1 .22 caliber shell casing, 1 spent lead shot, and 2 buttons. Other material consists of unidentifiable metal fragments (N=122). The buttons are made from iron and copper, respectively. Surface markings cannot be identified on the buttons.

Historic By-Products. This category includes wallboard, cinders, and coal.

Artifact Distribution. The most heavily concentrated area is near the north end of the site along the creek bank (Map 9). Artifact density is directly correlated with the area of undisturbed deposits. Artifacts decrease progressively from north to south along the top of the ridge. Density figures range from 1,265/$m^3$ in unit 1 to 89/$m^3$ in unit 6 (Chart 3).

Chart 3. Artifact Density per Cubic Meter, Site 21C4-27



A moderate surface scatter of historic debris indicates a historic occupation dating to pre-1920 based on early plat maps (Map 7). Examination of materials recovered from unit 6 suggests that this occupation might be dated somewhat earlier (Early Agricultural). Although a limited amount of debris was encountered in units to the north of unit 6 (Map 9), the assemblage of artifacts in this unit suggests that a structure was located in this vicinity. Most historic activity occurred on the southern and central portions of the site.

Summary. Site 21C4-27 is characterized as a moderate scatter of lithic debris and unmodified stone and a light scatter of lithic tools, ceramics, and modified stone. The Middle Woodland habitation area is not extensive, and no midden deposits are evident. There is a variety of lithic tools. Undisturbed cultural deposits appear restricted to areas of the ridge overlooking the floodplain of Galum Creek.

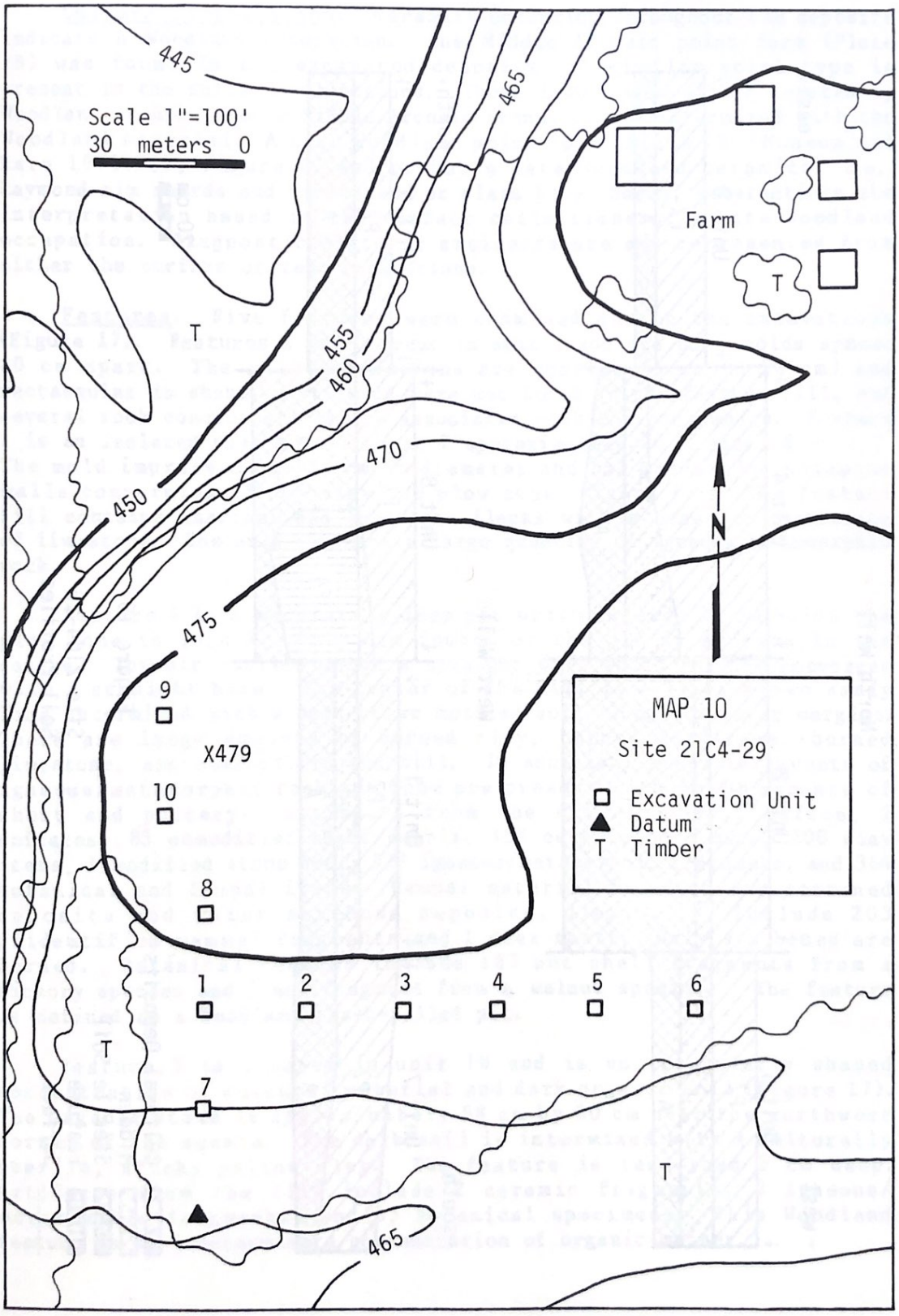
## Site 21C4-29

The site is located in a former prairie environment, and cultural material extends across a ridge top adjacent to the upper margins of Galum Creek near the northwest corner of the project area. Prairie extended to the margins of the ridge overlooking Galum Creek, a characteristic feature near the headwaters of the stream (Map 2). The surface reconnaissance indicated a moderate density of sandstone, chert, and glacial cobbles. Diagnostic materials from the surface reflect a Middle Archaic occupation. The site was in the proposed diversion channel corridor scheduled for construction during the fall of 1980.

Test excavations were conducted during July and August of 1979. Ten units were excavated within an area of 11,500 $m^2$, representing a sample from the site of less than .1% (Map 10).

Stratigraphy. Two soil zones comprise the soil stratigraphy (Figure 16). The plow zone ranges in thickness between 12 cm and 40 cm. Most units have a plow zone averaging around 14 cm to 18 cm in thickness. The greatest plow zone depth occurs in unit 4 near the eastern area of the site. Soil in this disturbed zone is dark brown silt loam. Zone A occurs across the site proper and extends to depths of 72 cm below the surface. The soil is a light to dark yellow-brown clay. The leached and oxidized blocky clay, which is the lowest soil horizon on most excavated sites in the project area, must be extremely deep on this site.

Cultural deposits extend throughout the plow zone in all units. A midden zone appears immediately below the plow zone and ranges between 4 cm and 15 cm in thickness. Midden deposits are not present in units 7, 8, 9, and 10. Approximately 1,600 $m^2$ have midden accumulations. Undisturbed cultural deposits probably extend into the woods along the west and southwest margins of the site. Midden deposits and cultural material are restricted to the upper margins of zone A. All soil deposits below the midden are culturally sterile.


445
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Scale 1"=100'
30 meters 0
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MAP 10
Site 21C4-29
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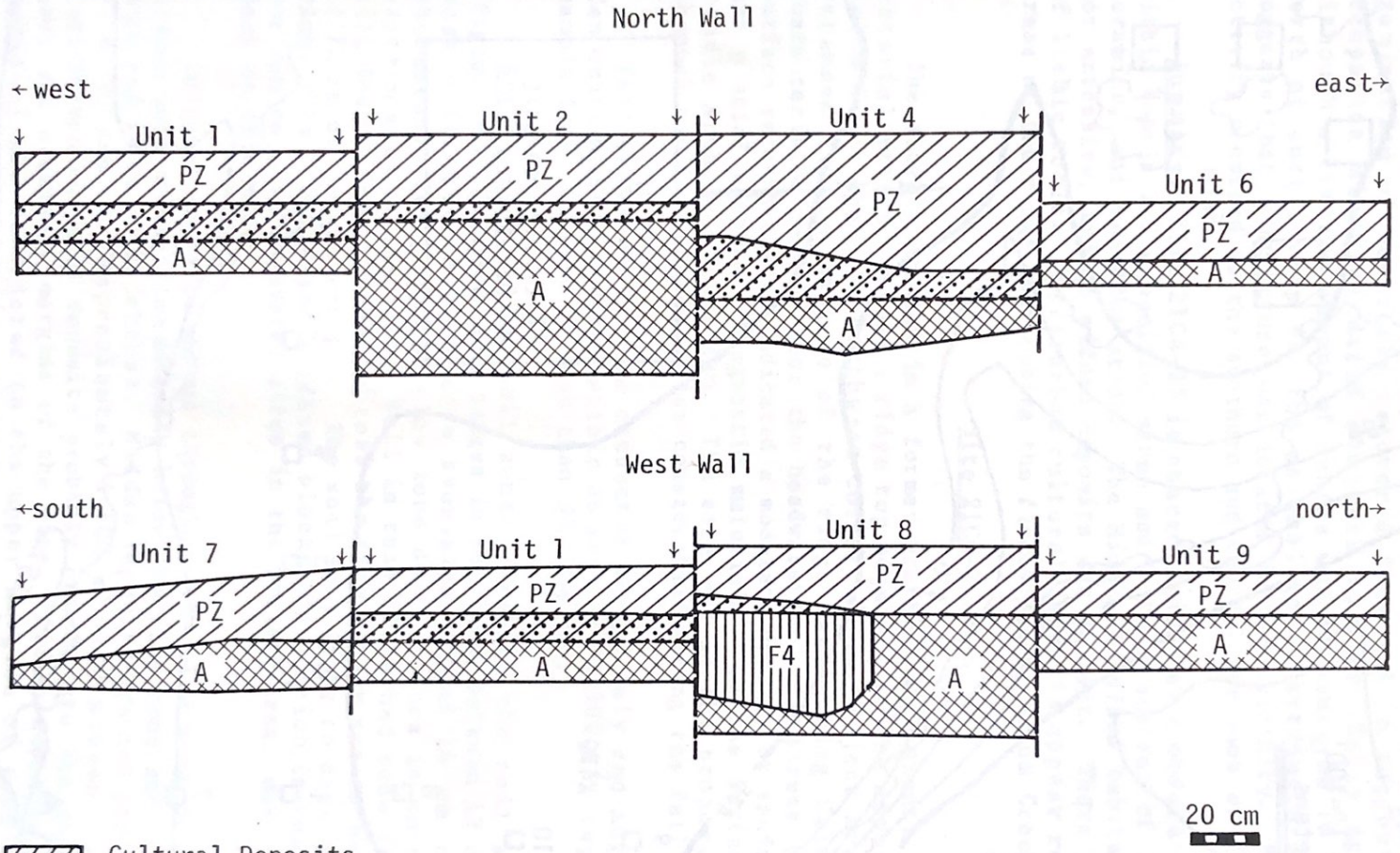



Figure 16

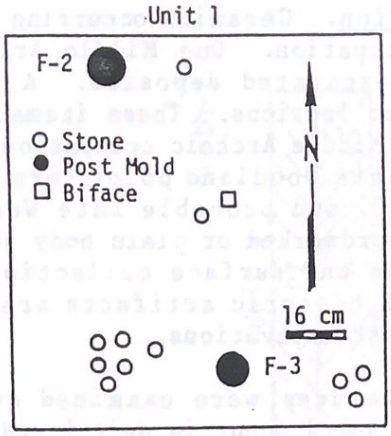
Site 21C4-29
Soil Profiles

Cultural Affiliation. Ceramics occurring throughout the deposits indicate a Woodland occupation. One Middle Archaic point form (Plate 2B) was found in the excavated deposits. A similar point type is present in the surface collections. These items were either curated by Woodland occupants or a Middle Archaic occupation is intermixed with the Woodland material. A Late Woodland point form (Plate 2E) (Munson and Harn 1971:103, Figure 8) and probable Late Woodland ceramics, i.e., Raymond rim sherds and cordmarked or plain body sherds, substantiate the interpretation based on the surface collections of a Late Woodland occupation. Diagnostic historic artifacts are not represented from either the surface or test excavations.

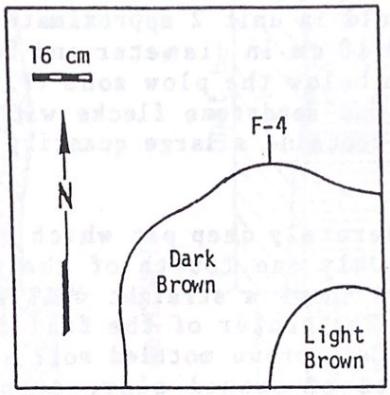
Features. Five features were examined during the excavations (Figure 17). Features 2 and 3 occur in unit 1 and are post molds spaced 60 cm apart. The mold impressions are shallow (5 cm to 10 cm) and rectangular in shape. Artifacts were not found in the feature fill, but several rock concentrations are associated with the post molds. Feature 1 is an isolated post mold in unit 2 approximately 20 m east of unit 1. The mold impression is 10 cm in diameter and has gradually insloping walls converging 13 cm below the plow zone (Figure 17). The feature fill contains charcoal and sandstone flecks with a heavy concentration of limestone. The unit contains a large quantity of igneous/metamorphic rock.

Feature 4 is a moderately deep pit which extends 28 cm below the plow zone in unit 8. Only one fourth of the pit is exposed in the square. The pit outline shows a straight wall which sharply converges with a straight base. The center of the fill is a light brown sandy loam intermixed with a dark brown mottled soil along its outer margins. There are large amounts of burned clay, burned sandstone, burned limestone, and charcoal in the fill. In addition, moderate amounts of igneous/metamorphic rock and bone are present with small amounts of chert and pottery. Artifacts from the fill include 1 biface, 2 unifaces, 83 unmodified chert debris, 135 ceramic specimens, 200 clay items, 1 modified stone tool, 327 igneous/metamorphic fragments, and 364 botanical and faunal items. Faunal material found in dry screened deposits and water screened deposits, i.e., 4 li, include 203 unidentified mammal fragments and 1 deer tooth. Only six bones are burned. Botanical remains include 165 nut shell fragments from a hickory species and 1 nut fragment from a walnut species. The feature is defined as a Woodland trash-filled pit.

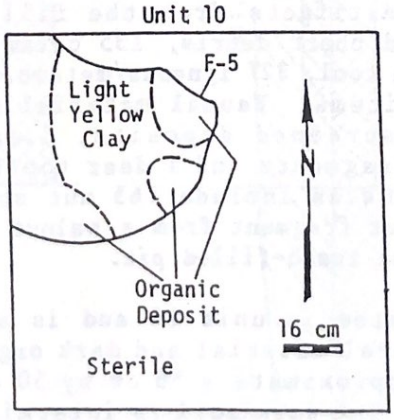
Feature 5 is located in unit 10 and is an irregularly shaped concentration of cultural material and dark organic soil (Figure 17). The organic stain is approximately 58 cm by 50 cm near the northwest corner of the square. The dark soil is intermixed with a culturally sterile, sticky yellow clay. The feature is less than 5 cm deep. Artifacts from the fill include 2 ceramic fragments, 2 igneous/metamorphic fragments, and 35 botanical specimens. This Woodland feature is an indeterminate concentration of organic matter.




Plan View: Features 2, 3




Plan View: Feature 4




Plan View: Feature 5

Features 2-5, Site 21C4-29

Prehistoric Artifacts

Lithics. A small, tabular, unmodified chert item was recovered and represents local till chert. Four cores are present from indeterminate chert types. Both multidirectional and bidirectional forms are represented. The cores are small, probably from gravel/pebble sources, and have cortex. Two specimens have edge retouch modifications.

There are 25 bifaces from the deposits. Eight items are biface fragments. Most of the bifaces have haft elements (N=10). Bifaces without haft elements have a wide variety of shapes. Blade length is relatively large, ranging between 32 mm and 62 mm. In comparison to other bifaces without haft elements, pointed bifaces are much smaller, suggesting that these items have undergone more extensive stages of tool reduction. All specimens lack cortex, and chert types are indeterminate. Most specimens are fractured, and about 30% of them have remodified edges. Bifaces with haft elements are slightly smaller than bifaces without haft modifications. The former biface group has smaller thickness measurements, suggesting more thinning treatment. Haft elements are relatively similar, with size ranges for length between 11 mm and 17 mm, for width between 12 mm and 23 mm, and for thickness between 11 mm and 17 mm. Corner and side notches are present, characterized by relatively shallow notches. Most stems are expanding with straight bases. Bifaces with haft elements commonly have proximal blade fractures. Two specimens are reworked, having edge retouch and long, narrow, parallel-sided point modifications. Cortex is absent from most specimens, and Kinkaid chert is the major nonlocal chert.

Unifaces (N=32) are characterized by unilateral retouch and end retouch. Other edge modifications include bilateral retouch, end lateral retouch, burinations, and notching. The most regular flake sizes are among end unilateral retouch specimens with ranges of length between 16 mm and 22 mm, of mean width between 14 mm and 15 mm, and of thickness between 6 mm and 9 mm. End lateral and bilateral retouched specimens are made on much larger flakes. Tool edge shapes are primarily irregular and expanding. Cortex is present on about 20% of the tools. Chert material is primarily local, and Kinkaid chert and Cobden chert also are present.

Three polished flakes are present and are within the same size range as unifaces. Cortex is absent, and the chert type is indeterminate. Multiple-flaked flakes are not represented. One modified chert chunk is present with unilateral retouch.

Unmodified flakes are represented by 574 specimens. Interior flakes characterize all major classes. Most flakes and chunks measure within the 1/4 in. to 1/2 in. size interval, and cortex is primarily absent. Most identifiable chert types are from local sources. Nonlocal chert types are limited to 38 Kinkaid, 12 Cobden, and 1 Mill Creek.

Ceramics. There is a wide variation of rim types (N=6), although most specimens appear to be variates of Raymond ware. The most

common rim variables are grit/grog temper, grainy lips and rim exterior surfaces, and plain exteriors. Other characteristics include straight, convex, and beveled lips, lip thickness between 2 mm and 6 mm, and rim thickness between 5 mm and 8 mm. Two complete rim forms are outflaring, and one rim has nodes.

Body sherds (N=1,216) are characterized by smooth interiors and grainy exteriors. Temper is mainly composed of grit/grog, followed respectively by grit, grog, and some shell mixtures.

Clay items (N=377) are represented mainly by miscellaneous clay which comprises 80% of the inventory. One item in the smooth clay fragment group might be a fragment from a miniature vessel. Daub does not occur frequently at the site.

Modified Stone. One fist-size pitted stone is present along with smaller, unidentified polished stones. Two grooved sandstone fragments are represented along with four quartzite flakes.

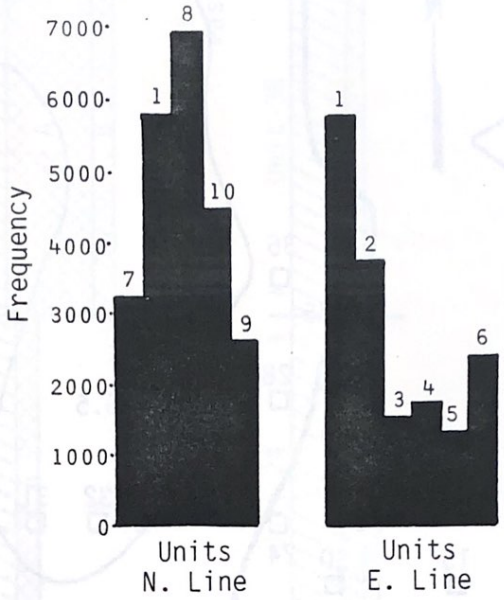
Unmodified Stone. Sandstone represents about 80% of the 5,732 stone fragments. Igneous/metamorphic rock is frequent in the collection, and limestone is infrequent.

Unmodified Bone. In addition to the bone described from the features, seven elements were recovered from the general occupation levels. Three elements are unidentified mammal remains, of which two are burned. Identified bones include one deer tooth and the right lower incisor of a woodchuck (Marmota monax).

Artifact Distribution. The most dense artifact distribution occurs along the southwest borders of the excavation area in units 1, 2, and 8 (Chart 4). Artifact density ranges between 3,712 and 6,918 items/$m^3$. This area of concentration corresponds with the midden deposits and features. Overall, the artifacts are concentrated along the western border of the site and gradually decreased within eastern site areas (Map 10). The site probably extends into the woods which range along the southwest and west of the test excavated area.

Summary. The site appears to be predominantly a Late Woodland occupation near the headwaters of Galum Creek. An extensive but moderately shallow habitation is indicated by site stratigraphy. Features and artifact diversity indicate potential multiactivity areas. Post molds and clay items, i.e., daub, suggest the presence of structures. The recovery of subsistence remains reflects good preservation conditions. In general, the site is very similar to 21C4-14 in cultural affiliation and site content. The major difference appears to be environmental context and site size.

Chart 4. Artifact Density per Cubic Meter, Site 21C4-29

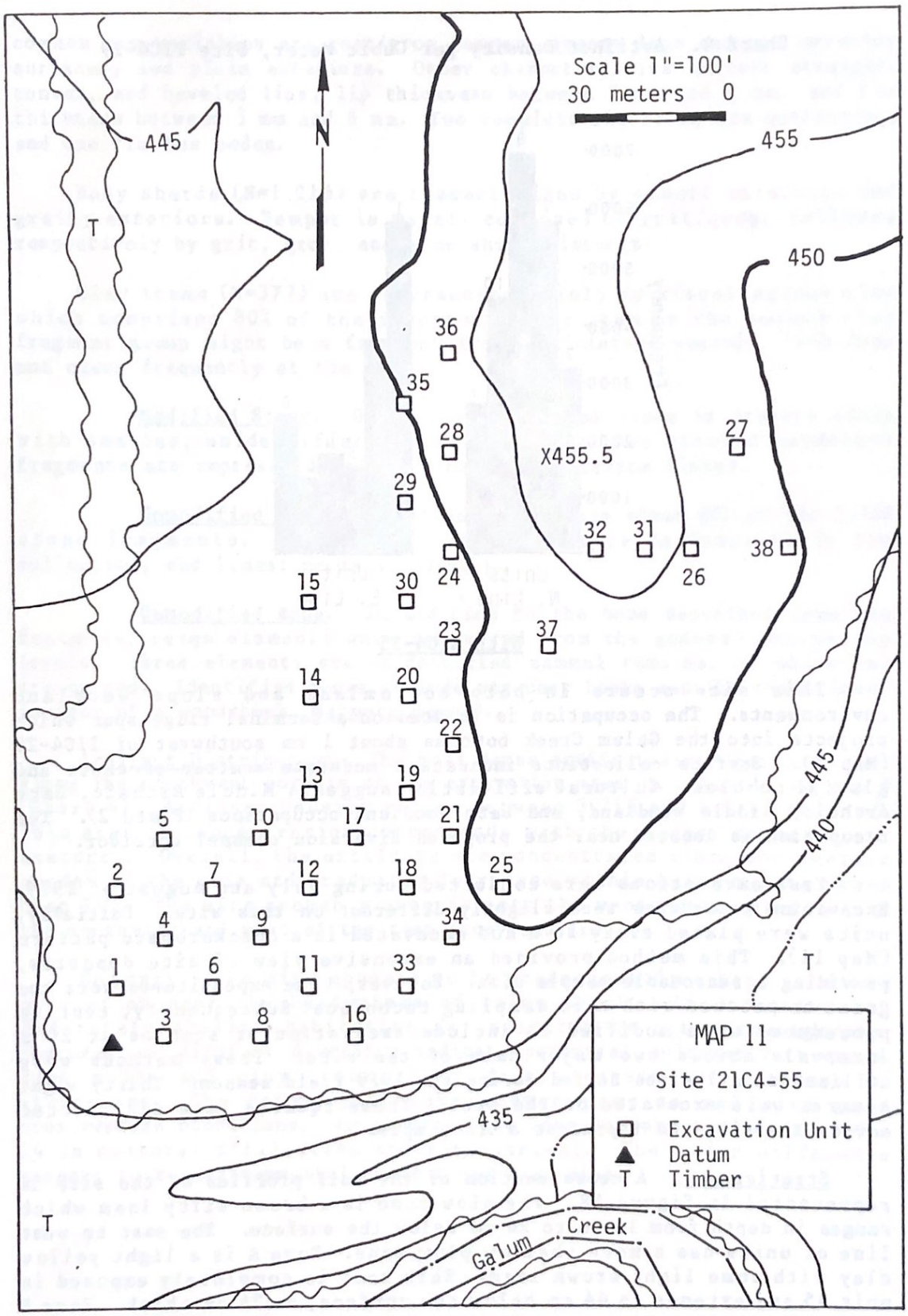



Site 21C4-55

This site occurs in both bottomland and slope woodland environments. The occupation is located on a terminal ridge spur which projects into the Galum Creek bottoms about 1 km southwest of 21C4-29 (Map 2). Surface collections indicate a moderate scatter of chert and glacial cobbles. Cultural affiliation suggests Middle Archaic, Late Archaic, Middle Woodland, and Late Woodland occupations (Plate 2). The occupation is located near the proposed diversion channel corridor.

Test excavations were conducted during July and August of 1979. Excavation procedures were slightly different on this site. Initially, units were placed every 10 m and excavated in a checkerboard pattern (Map 11). This method provided an extensive view of site deposits, providing a reasonable sample size. However, time expenditures were too great to proceed with this sampling technique. Subsequently, testing procedures were modified to include excavation of squares at 20 m intervals across two major axes of the site. These methods were utilized on all sites tested during the 1979 field season. Thirty eight squares were excavated on the site. These squares are distributed across the site and represent a .1% sample.

Stratigraphy. A cross section of the soil profiles at the site is represented in Figure 18. The plow zone is a brown silty loam which ranges in depth from 12 cm to 26 cm below the surface. The east to west line of units has a more shallow plow zone. Zone A is a light yellow clay with some light brown loam. This zone is completely exposed in unit 35 and extends to 44 cm below the surface, or 24 cm thick. Zone B is a sandy, oxidized and leached blocky clay occurring below zone A.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MAP 11
Site 21C4-55
Excavation Unit
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Galum Creek

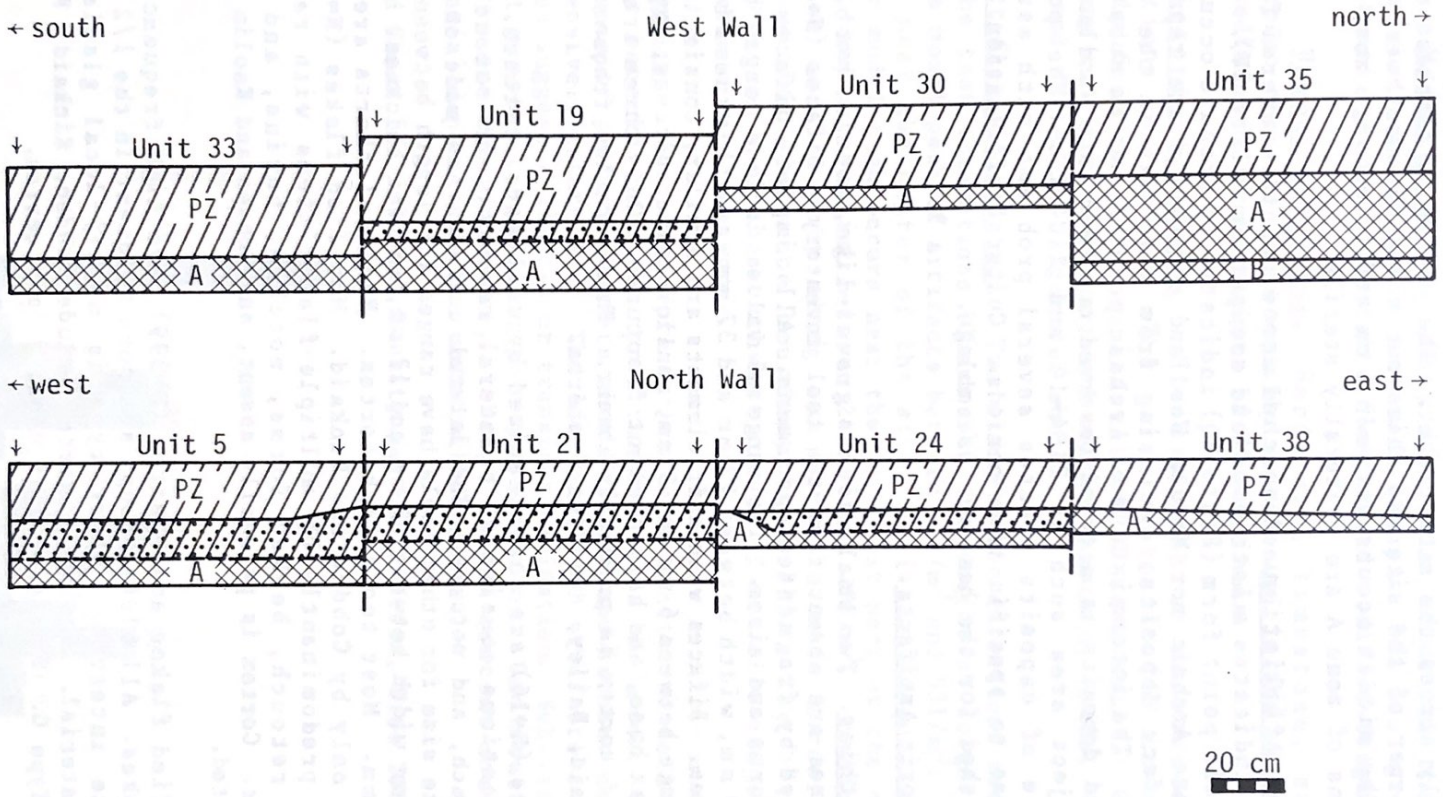



Figure 18

Site 21C4-55
Soil Profiles

Cultural deposits occur throughout the plow zone except in unit 38, the easternmost excavation unit. A midden layer is scattered intermittently across the site proper. The midden is thickest near the southwest corner of the site and thins out along the northwest part of the site. The midden occurs between 5 cm and 15 cm into zone A. All other portions of zone A are culturally sterile.

Cultural Affiliation. A notched arrow point recovered from the excavations indicates a Late Woodland occupation (Plate 2V). Also, a Middle Archaic point form (Plate 2Q) indicates an Archaic occupation. Neither a Late Archaic nor Middle Woodland occupation are represented from subsurface deposits, deviating from what was in the surface collections. The intermixture of Archaic point forms in substantial Late Woodland deposits is a trend observed on other Late Woodland sites in the project area such as 21C4-14 and 21C4-29. The possible intermixture of deposits creates several problems with assigning activity areas to specific time periods. Cultural affiliation has not been established for the historic assemblage.

Prehistoric Artifacts.

Lithics. Two small Mounds gravel-like, nodular pebbles are present. Cores are absent from the tool inventory. Bifaces (N=17) are characterized by fragmented specimens. All complete bifaces show a variety of forms and sizes. The range of values include length between 77 mm and 89 mm, width between 22 mm and 37 mm, and thickness between 7 mm and 11 mm. Bifaces with haft elements are similar, consisting of a thickness range between 6 mm and 9 mm, shallow corner notches, expanding stems, convex base, and haft element fractures. Only three items are reworked, and cortex is primarily absent. There are low frequencies of Cobden, Kinkaid, Bailey, and Type C cherts.

Unifaces (N=16) are characterized by unilateral retouch. Other edge modifications consist of bilateral retouch, end retouch, end lateral retouch, and notches. End lateral unifaces are made on larger flakes. Flake size for other tools have ranges for length between 17 mm and 22 mm, for width between 12 mm and 17 mm, and for thickness between 5 mm and 6 mm. Most tools lack cortex. Nonlocal cherts are rare, represented only by Cobden and Kinkaid. Modified flakes (N=8) are represented predominantly by multiple-flaked items with retouch, unilateral retouch, beaked forms, notches, burins, and nosed modifications. Cortex is primarily absent, and Cobden and Kaolin cherts are represented.

Unmodified flakes and shatter (N=399) have high frequencies of interior flakes. All flake groups are more frequent in the 1/2 in. to 1/4 in. size interval. Chert type is mainly local glacial and quartzitic material. Nonlocal cherts include Cobden, Kinkaid, Kaolin, Bailey, and Type C. Shatter/chunks usually lack cortex.

Ceramics. Ceramics include only 19 fragmented sherds and 3 pieces of miscellaneous clay. The fragmented sherds have mainly

grit/grog temper. Grit and grog tempers are infrequent. The pottery cannot be assigned to specific Woodland periods.

Modified Stone. Only 10 tools occur in the inventory, representing a small variety of tool groups. The tool groups include planar-faced, grooved, quartzite flakes, and modified fragments.

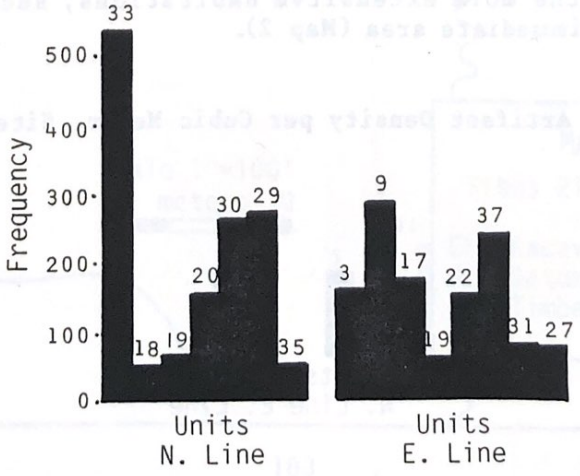
Unmodified Stone. Sandstone, limestone, and igneous/metamorphic rock are about equally represented in the inventory (N=868). Other sedimentary rock consists of 94 specimens.

Historic Artifacts. Historic debris recovered from test excavations was sparse. The material totals 152 items recovered entirely from the plow zone level of 38 test units. The artifact inventory consists of cinders and brick fragments, nails, fragments of glass, and whiteware fragmented sherds.

Artifact Distribution. Two discrete concentrations are represented from the test excavations (Chart 5). The southwest corner of the site shows a modal peak of artifacts between 157/$m^3$ and 531/$m^3$. In units 18 and 19 near the center of the site, artifact frequencies are low. Another modal peak occurs near the northwest part of the site in units 29, 30, and 37, ranging between 241/$m^3$ and 275/$m^3$. Artifact densities decrease considerably along the northern site borders, probably representing the site boundary (Map 11). The high artifact concentration near the southwest corner of the site suggests that the site extends into the woods.

Summary. The site represents a light scatter of Late Woodland and Archaic material near the upper reaches of Galum Creek. The sporadic occurrence of pottery suggests that Woodland and Archaic material might be extensively intermixed. The low density of artifacts and absence of features suggest a limited or transient habitation. Subsistence remains are not present, suggesting poor preservation. Undisturbed cultural deposits are not extensive, although midden content does offer some substantial deposits in the undisturbed context.

Chart 5. Artifact Density per Cubic Meter, Site 21C4-55



Test excavations uncovered a limited quantity of historic debris. Although this assemblage includes construction materials and earthenware, there is little supporting evidence of a historic homestead occupation. Material of determinable cultural affiliation was not recovered.

## Site 21C4-58

The site is positioned in the slope woodland. Surface scatter is on a terminal ridge spur overlooking a gully about 400 m from Galum Creek. Site 21C4-55 is located on an adjacent ridge spur only 308 m to the west. Surface collection revealed a light scatter of chert, sandstone, and glacial cobbles. A cultural affiliation could not be determined. The site was located within the diversion channel corridor scheduled for construction during the fall of 1980.

Test excavations were conducted during September of 1979. Four excavation unit were removed, totaling .2% of the site area (Map 12).

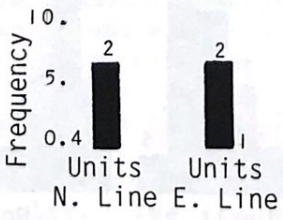
Stratigraphy. Three soil zones are recorded from site stratigraphy. The plow zone is a light brown silt loam which ranges in depth between 10 cm and 18 cm below the surface. The more northern units have a shallower plow zone. Zone A is a light yellow clay loam which reaches a maximum depth of 59 cm below the surface. Zone B is a yellow oxidized clay underlying zone A. Cultural material occurs only in the plow zone and is restricted to unit 2 (Chart 6).

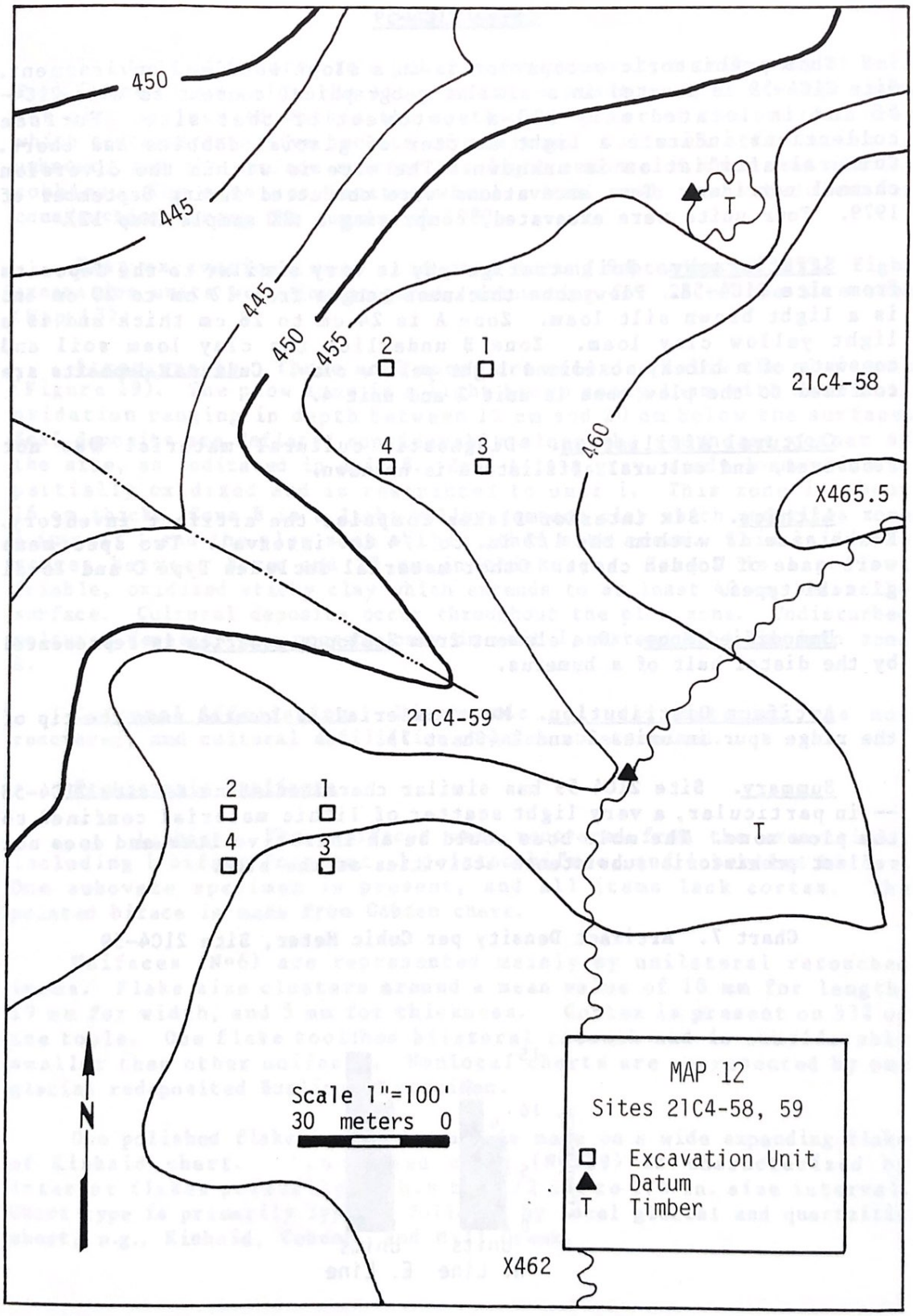
Cultural Affiliation. Diagnostic materials were not recovered from the site, and cultural affiliation remains undetermined.

Lithics. One bilateral retouched uniface and two interior flakes represent the total lithic inventory. The uniface is made on a large blade with cortex. The interior flakes are in the 1/2 in. to 1/4 in. size interval. Only glacial chert types are represented.

Summary. Site 21C4-58 is a very light scatter of lithic debris near the upper reaches of Galum Creek. The absence of undisturbed cultural deposits and the limited artifact inventory distinguishes this occupation from the more extensitve habitations, such as 21C4-29 and 21C4-55, in this immediate area (Map 2).

Chart 6. Artifact Density per Cubic Meter, Site 21C4-58

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21C4-58
X465.5
21C4-59
2
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N
Scale 1"=100'
30 meters 0
MAP 12
Sites 21C4-58, 59
Excavation Unit
Datum
T Timber
X462

## Site 21C4-59

This prehistoric occupation is in a slope woodland environment. Site 21C4-59 is located in a similar geographical context to site 21C4-58 and is located only 120 m southwest of that site. Surface collections indicate a light scatter of glacial cobbles and chert. Cultural affiliation is unknown. The site is within the diversion channel corridor. Test excavations were conducted during September of 1979. Four units were excavated, comprising a .2% sample (Map 12).

Stratigraphy. Soil stratigraphy is very similar to the deposits from site 21C4-58. Plow zone thickness ranges from 12 cm to 20 cm and is a light brown silt loam. Zone A is 24 cm to 28 cm thick and is a light yellow clay loam. Zone B underlies the clay loam soil and consists of a blocky, oxidized light yellow clay. Cultural deposits are confined to the plow zone in unit 2 and unit 4.

Cultural Affiliation. Diagnostic cultural material was not recovered, and cultural affiliation is unknown.

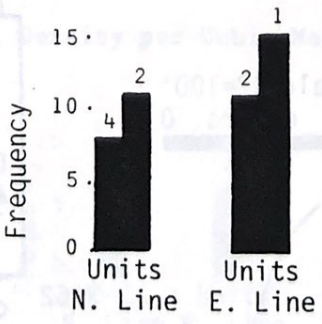
Lithics. Six interior flakes comprise the artifact inventory. Flake size is within the 1/2 in. to 1/4 in. interval. Two specimens were made of Cobden chert. Other material includes Type C and local glacial types.

Unmodified Bone. One element from Scalopus aquatica is represented by the distal half of a humerus.

Artifact Distribution. Most material is located near the tip of the ridge spur in units 1 and 2 (Chart 7).

Summary. Site 21C4-59 has similar characteristics to site 21C4-58 -- in particular, a very light scatter of lithic material confined to the plow zone. The mole bone could be an intrusive item and does not reflect prehistoric subsistence activities at the site.

Chart 7. Artifact Density per Cubic Meter, Site 21C4-59



## Site 21C4-65

The site is located in a prairie environment; a tributary of Rock Fork Creek flows below the site, which is positioned on a ridge spur. The site is located within the southwest corner of the project area which contains extensive amounts of prairie. Cultural affiliation is unknown, and the surface scatter has light amounts of chert and glacial cobbles. The site was located where a haul road was scheduled for construction during the summer of 1980.

Test excavations were conducted during September of 1979. Eight excavation units were investigated, accounting for .2% of the site area (Map 13).

Stratigraphy. Three soil zones are recorded below the plow zone (Figure 19). The plow zone is a light brown sandy loam with some soil oxidation ranging in depth between 12 cm and 20 cm below the surface. Soil deposits are deflated considerably along the southeast corner of the site, as indicated in unit 8. Zone A is a gray, sandy loam which is partially oxidized and is restricted to unit 1. This zone is about 16 cm thick. Zone B is a light yellow compact clay which underlies zone A in unit 1 and the plow zone within other site areas. This soil zone ranges between 8 cm and 20 cm in thickness. Zone C is a yellow, friable, oxidized sticky clay which extends to at least 40 cm below the surface. Cultural deposits occur throughout the plow zone. Undisturbed cultural deposits are present only in unit 1, extending 4 cm into zone A.

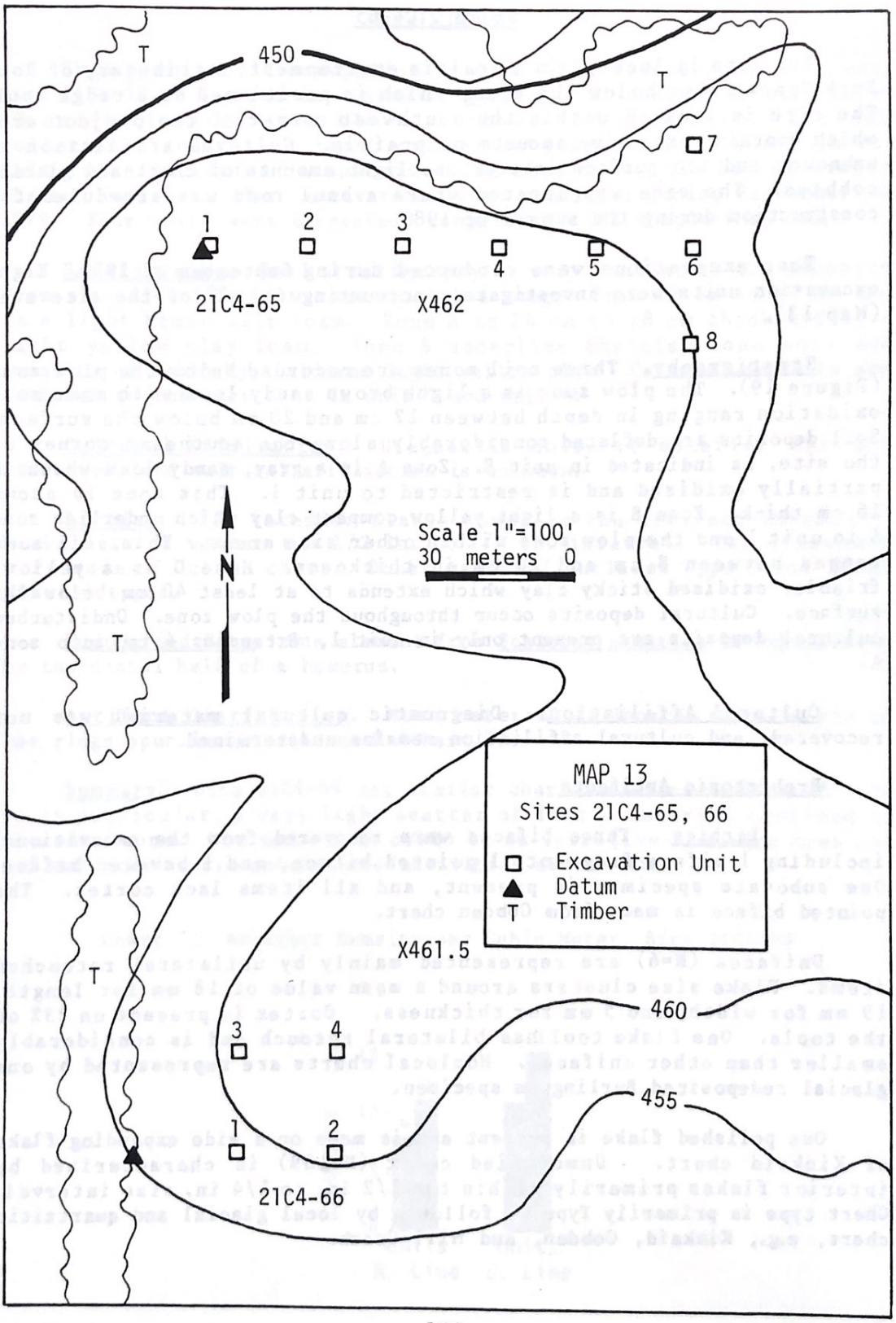
Cultural Affiliation. Diagnostic cultural material was not recovered, and cultural affiliation remains undetermined.

### Prehistoric Artifacts

Lithics. Three bifaces were recovered from the excavations, including 1 biface fragment, 1 pointed biface, and 1 beveled biface. One subovate specimen is present, and all items lack cortex. The pointed biface is made from Cobden chert.

Unifaces (N=6) are represented mainly by unilateral retouched items. Flake size clusters around a mean value of 18 mm for length, 19 mm for width, and 5 mm for thickness. Cortex is present on 33% of the tools. One flake tool has bilateral retouch and is considerably smaller than other unifaces. Nonlocal cherts are represented by one glacial redeposited Burlington specimen.

One polished flake is present and is made on a wide expanding flake of Kinkaid chert. Unmodified chert (N=139) is characterized by interior flakes primarily within the 1/2 in. to 1/4 in. size interval. Chert type is primarily Type C, followed by local glacial and quartzitic chert, e.g., Kinkaid, Cobden, and Mill Creek.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MAP 13
Sites 21C4-65, 66
Excavation Unit
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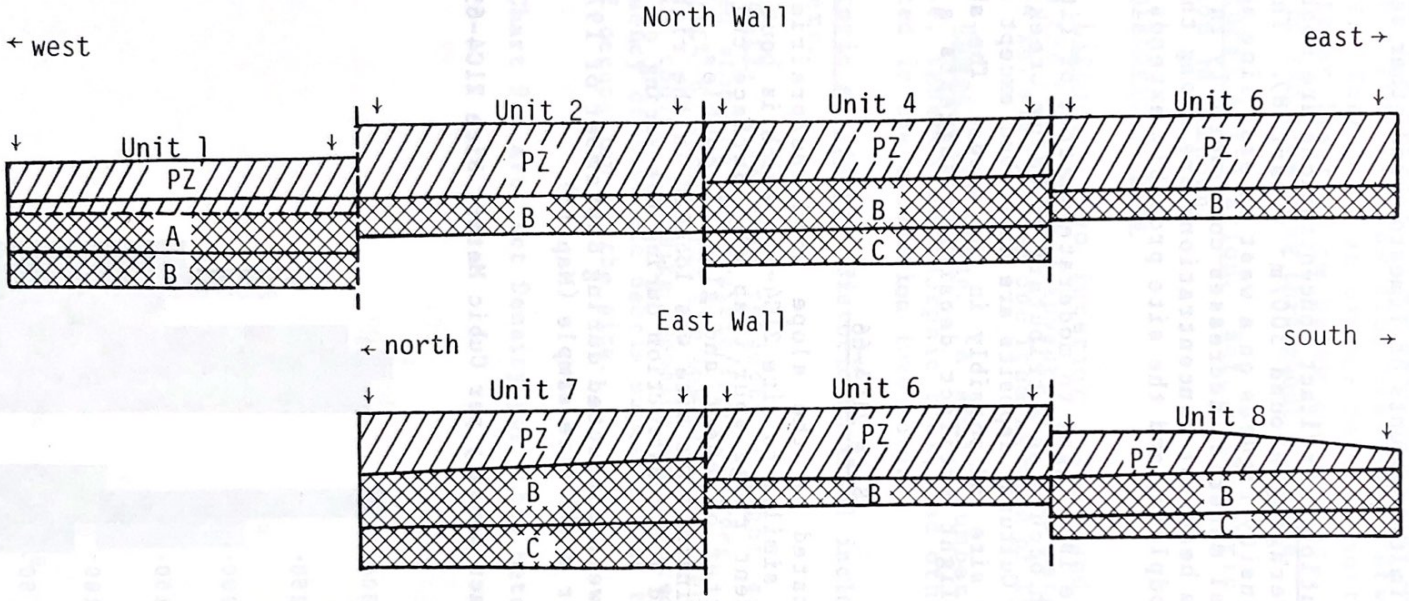



Figure 19

Site 21C4-65
Soil Profiles

Unmodified Stone. Igneous/metamorphic rock represents about 50% of the material collected. Sandstone consists of 35% of the material, followed by limited amounts of limestone and other sedimentary rock.

Artifact Distribution. Artifact concentrations are most dense in units 1, 2, and 3, averaging around 300/$m^3$ (Chart 8). There is a gradual decrease in density figures on a west to east line across the site (Map 13). Cultural material decreases considerably in southern areas of the site. The heaviest concentrations are along the edge of the ridge near the floodplain, and the site probably extends into the adjacent woods.

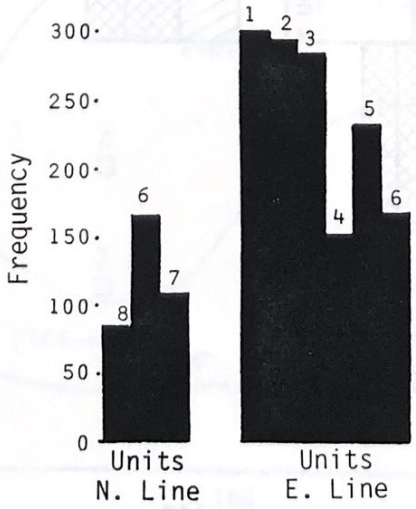
Summary. The site is a light to moderate scatter of lithics and unmodified stone which occurs on a tributary of Galum Creek near the prairie/forest border. Cultural deposits are disturbed except along the northwest border of the site and possibly in the woods. The absence of midden deposits and light artifact densities suggests a limited habitation of the site.

## Site 21C4-66

This site is located on the slope woodland/prairie border. Geographical context is similar to site 21C4-65, which is bout 120 m to the south on an adjacent ridge spur (Map 2). Surface collections indicate a light scatter of chert and glacial cobbles. Cultural affiliation is indeterminate. The site was located in the right-of-way of a haul road scheduled for construction during the spring of 1980.

Test excavations were conducted during September of 1979. Four units were excavated for a .2% site sample (Map 13).

Chart 8. Artifact Density per Cubic Meter, Site 21C4-65



Stratigraphy. Two soil zones are recorded below the plow zone. Plow zone is a dark brown to light yellow clay loam which ranges in depth from the surface to between 12 cm and 20 cm below the surface. Zone A is a light yellow clay measuring between 8 cm and 12 cm in thickness. Zone B is an orange to gray mottled yellow clay which extends to at least 40 cm below the surface. Cultural material is confined to the plow zone throughout the site.

Cultural Affiliation. Both prehistoric and historic cultural affiliation is unknown.

Prehistoric Lithics

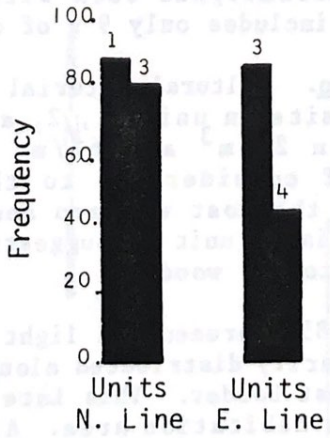
Lithics. Two interior flakes and one piece of shatter comprise the total lithic inventory. This material is within the 1/2 in. to 1/4 in. size range; one item is made of Type C chert.

Unmodified Stone. A small number (N=43) of limestone, sandstone, igneous/metamorphic rock, and other sedimentary rock is represented in the excavation inventory.

Historic Artifacts. Historic material includes glass, earthenware, and cinders.

Summary. The site reflects a light scatter of lithics and unmodified stone on the prairie/forest border. Site content is similar to site 21C4-65 except for the low artifact density (Chart 9) and lack of bifacial tools. All site deposits are limited to the plow zone. The low frequency of historic debris suggests that the material was not the result of occupation at the site.

Chart 9. Artifact Density per Cubic Meter, Site 21C4-66



## Site 21C4-85

This prehistoric occupation is located in a prairie environment. The site is near the upper margins of Galum Creek on a ridge top about 290 m from the mainstream. Surface collections indicate a light scatter of chert and glacial cobbles. The surface collected material indicates a Late Archaic occupation. The surface scatter was positioned near a proposed service road and settling basin scheduled for construction during 1983. Test excavations were performed in September of 1979. Six excavation units were investigated, totaling .2% of the site area (Map 14).

Stratigraphy. Three soil zones are identified from the soil stratigraphy (Figure 20). Plow zone is a light brown silt loam ranging in depth from the surface to between 18 cm and 20 cm below the surface. Zone A is a light yellow clay loam approximately 16 cm thick. Zone B is a yellow, oxidized, sticky clay extending at least 52 cm below the surface. Cultural deposits are restricted to the plow zone throughout the site.

Cultural Affiliation. Diagnostic material is not present in the tool inventory recovered during excavation.

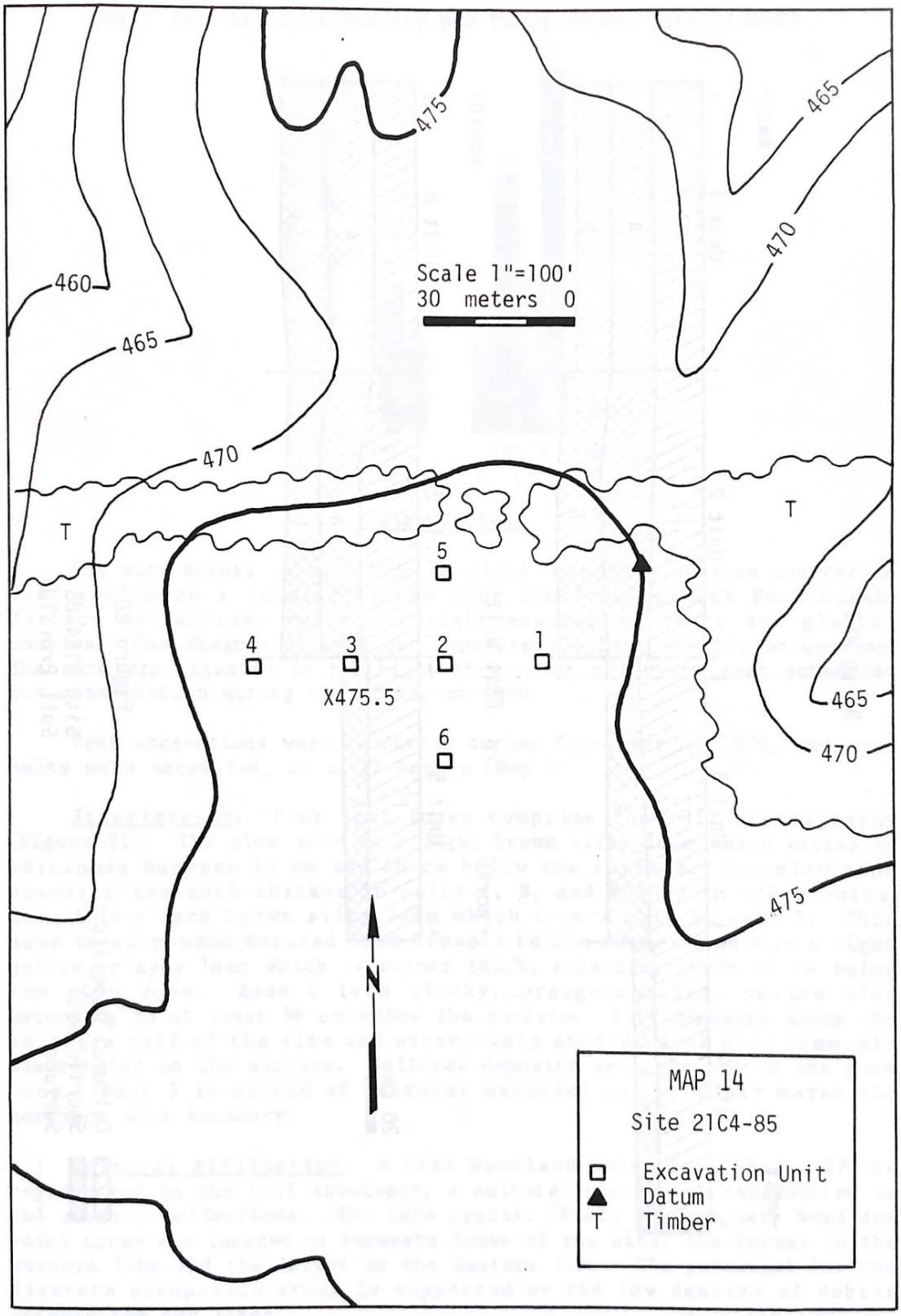
Prehistoric Artifacts

Lithics. One pointed biface with haft element is represented in the collections. The blade is large with a thin midsection. The corner notches are deep and wide. The haft has an expanding stem and straight base. Chert type is Cobden, and there is a top fracture. Unmodified flakes (N=7) are characterized by interior flakes within the 1/2 in. to 1/4 in. size interval. The only nonlocal chert identified is Kinkaid.

Unmodified Stone. This category is composed primarily of sandstone and igneous/metamorphic rock with very little limestone (N=24). Historic debris includes only 9 g of cinder.

Artifact Distribution. Cultural material is primarily distributed near the center of the site in units 1, 2, and 3 (Map 14). Artifact density ranges between 26/$m^3$ and 62/$m^3$ (Chart 10). Material distribution tapers off considerably to the south in unit 6 and decreases slightly near the most western and northern squares. The highest artifact density is in unit 1, suggesting that the site extends further east, possibly into the woods.

Summary. Site 21C4-85 represents a light scatter of lithic debris and unmodified stone primarily distributed along the middle of the ridge top near the prairie/forest border. This Late Archaic occupation has a very limited and shallow habitation area. All cultural deposits are distributed in the plow zone. The site is very similar to sites 21C4-55, -65, and -66. Historic artifacts are considered intrusive.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MAP 14
Site 21C4-85
Excavation Unit
Datum
T Timber

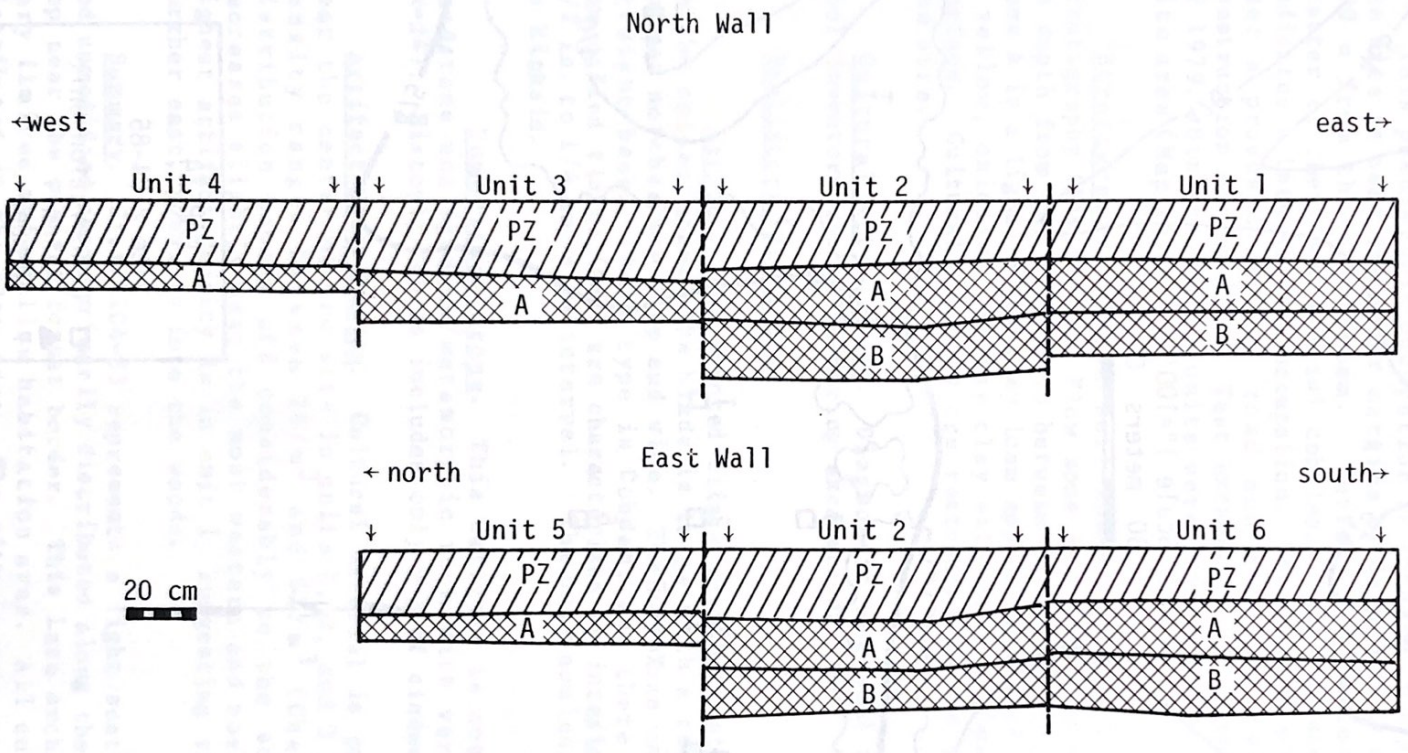
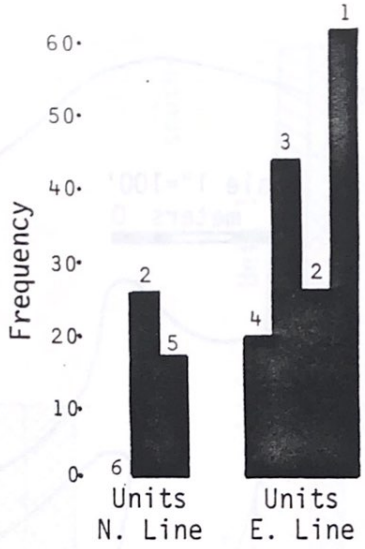



Figure 20

Site 21C4-85
Soil Profiles

Chart 10. Artifact Density per Cubic Meter, Site 21C4-85



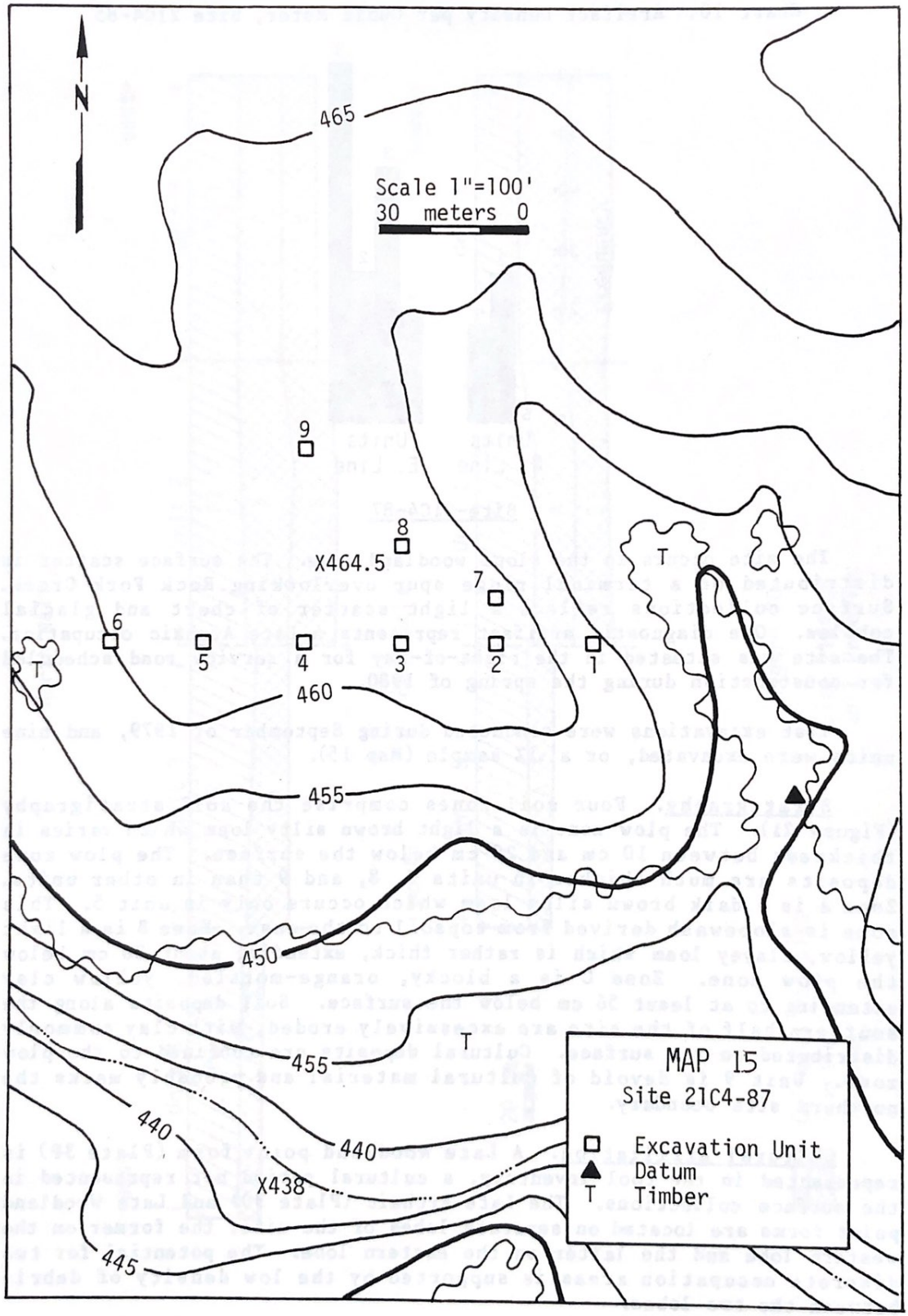

Site-21C4-87

The site occurs in the slope woodland zone. The surface scatter is distributed on a terminal ridge spur overlooking Rock Fork Creek. Surface collections reflect a light scatter of chert and glacial cobbles. One diagnostic artifact represents a Late Archaic occupation. The site was situated in the right-of-way for a service road scheduled for construction during the spring of 1980.

Test excavations were conducted during September of 1979, and nine units were excavated, or a .1% sample (Map 15).

Stratigraphy. Four soil zones comprise the soil stratigraphy (Figure 21). The plow zone is a light brown silty loam which varies in thickness between 10 cm and 20 cm below the surface. The plow zone deposits are much thicker in units 7, 8, and 9 than in other units. Zone A is a dark brown silty loam which occurs only in unit 5. This zone is slopewash derived from topsoil to the east. Zone B is a light yellow, clayey loam which is rather thick, extending about 28 cm below the plow zone. Zone C is a blocky, orange-mottled, yellow clay extending to at least 56 cm below the surface. Soil deposits along the southern half of the site are excessively eroded, with clay commonly distributed on the surface. Cultural deposits are confined to the plow zone. Unit 9 is devoid of cultural material and probably marks the northern site boundary.

Cultural Affiliation. A Late Woodland point form (Plate 3P) is represented in the tool inventory, a cultural period not represented in the surface collections. The Late Archaic (Plate 3O) and Late Woodland point forms are located on separate lobes of the site, the former on the western lobe and the latter on the eastern lobe. The potential for two discrete occupation areas is supported by the low density of debris between the two lobes.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MAP 15
Site 21C4-87
Excavation Unit
Datum
T Timber

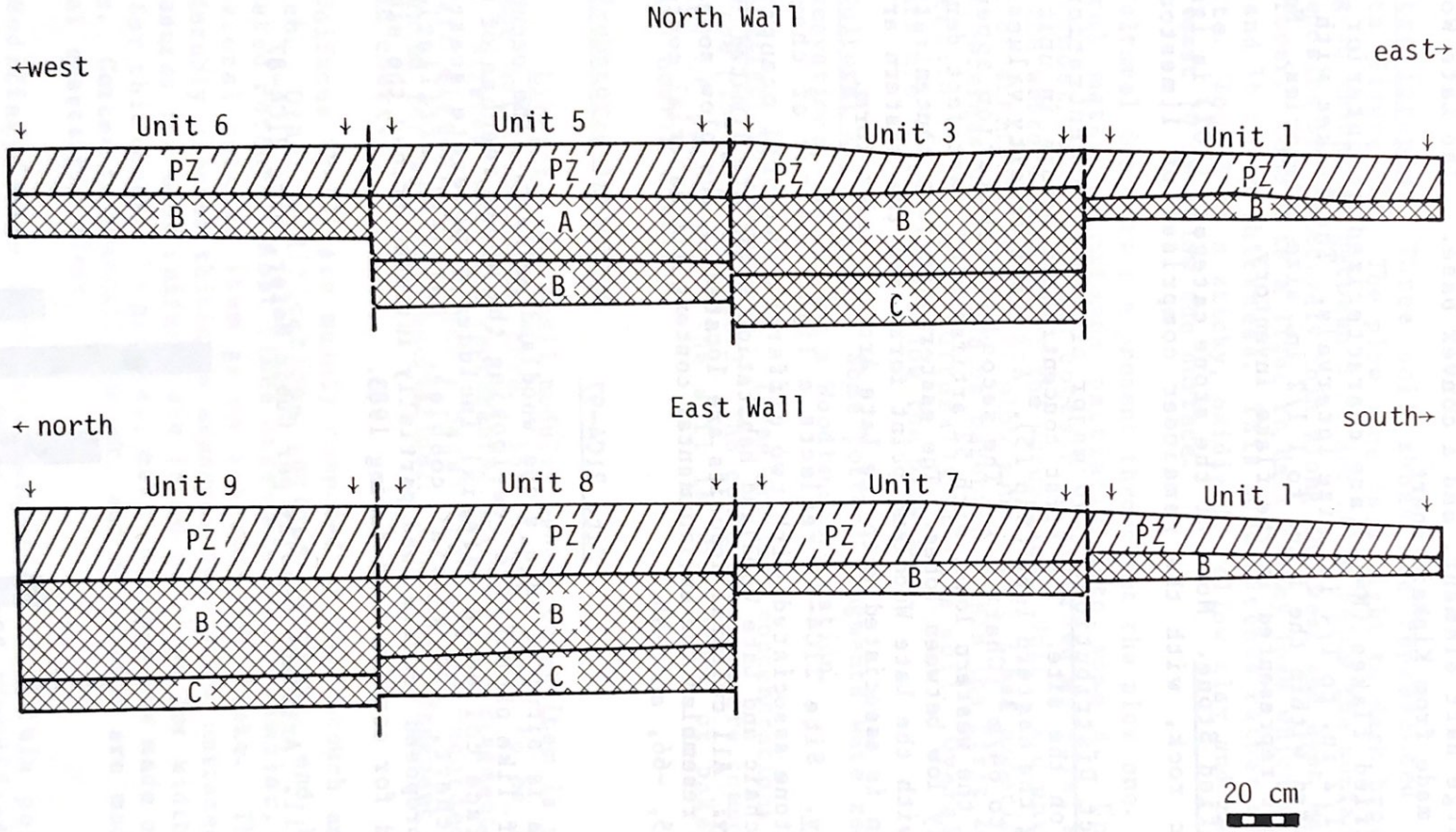



Figure 21

Site 21C4-87
Soil Profiles

Lithics. Bifacial tools are represented by two specimens which are pointed forms with haft elements. The Archaic tool has a large, thick blade, a large haft element, and a convex base. The Late Woodland specimen is made from Kinkaid chert.

Unmodified flakes (N=11) are characterized as interior flakes within the 1/2 in. to 1/4 in. size intervals. The flakes with cortex are distributed within the 1 in. to 1 1/2 in. size categories. Nonlocal cherts are not represented in the flake inventory.

Unmodified Stone. Most of the stone category (90%) is igneous/metamorphic rock, with the remainder comprised of limestone and sandstone.

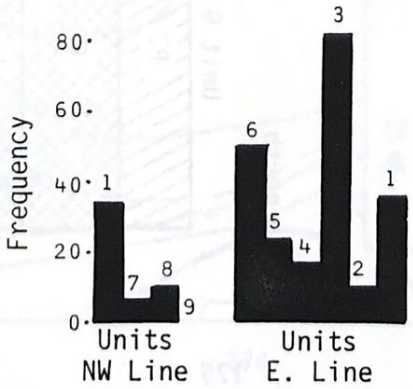
Artifact Distribution. Two major artifact concentrations are represented on the site. The first concentration occurs in unit 1 and unit 3 along the eastern lobe (Map 15). Artifact density values range from $36/m^3$ to $84/m^3$ (Chart 11). The second concentration appears in unit 6 along the western lobe, with 52 artifacts/$m^3$. Artifact densities are extremely low between lobes. The eastern artifact concentration is associated with the Late Woodland point form, and the western artifact concentration is associated with the Late Archaic point form.

Summary. Site 21C4-87 reflects a light scatter of chert and unmodified stone associated with two different cultural occupations. Both Late Archaic and Late Woodland habitation areas are limited in size and intensity. All cultural deposits are located in the plow zone. The site closely resembles the environmental context and material content of sites 21C4-65, -66, and -85.

## Site 21C4-97

The site is situated in a slope woodland setting. The occupation is on a bluff-like prominence overlooking the upper reaches of Galum Creek. Surface collected material includes a moderate scatter of sandstone, chert, and glacial cobbles. Cultural affiliation is unknown. A proposed service road partially intruded across the site and was scheduled for construction during 1983.

Chart 11. Artifact Density per Cubic Meter, Site 21C4-87



Test excavations were conducted during September and August of 1979. Twelve excavation units were placed across the site proper, representing a .1% sample (Map 16).

Stratigraphy. Three soil zones are represented in the soil deposits (Figure 22). The plow zone is a light to dark brown silt loam varying in thickness between 8 cm and 20 cm below the surface. The plow zone deposits are relatively thin along the west and east margins of the site proper. Zone A is a light to dark clayey loam which ranges between 26 cm and 36 cm in thickness. This zone extends rather deeply across the site. Zone B is a sticky, oxidized, yellow clay and reaches depths of at least 70 cm below the surface.

Cultural deposits are present throughout the plow one. Undisturbed cultural material extends partially into zone A. Unit 12, the westernmost unit, does not contain undisturbed material and probably marks the western margins of the occupation. Unit 7 and unit 9 show the extent of artifacts below the plow zone. Unit 7 has material throughout zone A, whereas unit 9 contains material within the first 20 cm of zone A underlain by 14 cm of culturally sterile soil. Overall, cultural deposits are fairly deep below the plow zone.

Cultural Affiliation. Some pottery fragments were recovered from the excavations, indicating a Woodland occupation.

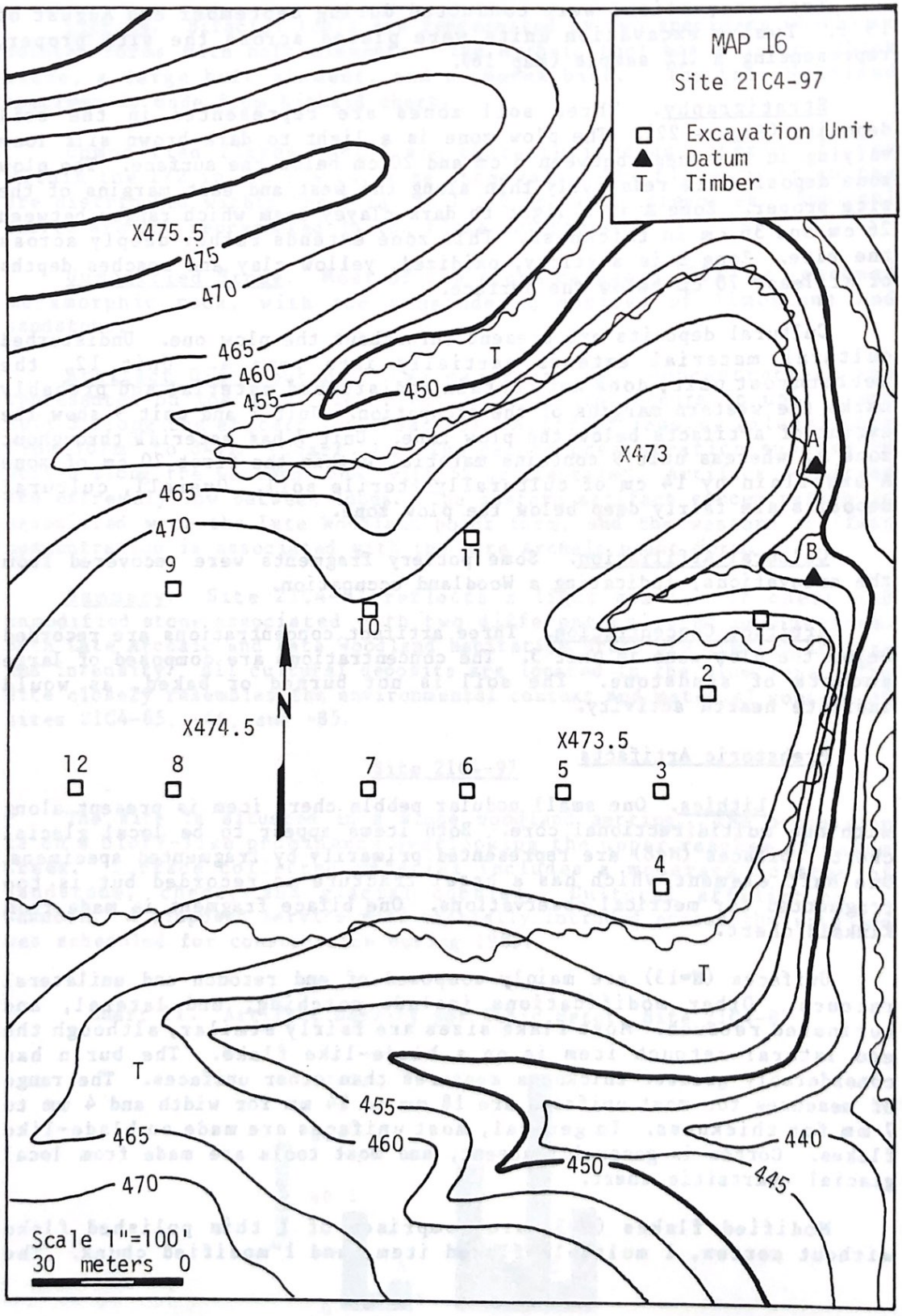
Artifact Concentration. Three artifact concentrations are recorded below the plow zone in unit 3. The concentrations are composed of large amounts of sandstone. The soil is not burned or baked, as would indicate hearth activity.

Prehstoric Artifacts

Lithics. One small nodular pebble chert item is present along with one multidirectional core. Both items appear to be local glacial chert. Bifaces (N=8) are represented primarily by fragmented specimens. One haft element which has a basal fracture is recorded but is too fragmented for metrical observations. One biface fragment is made from Kinkaid chert.

Unifaces (N=13) are mainly composed of end retouch and unilateral retouch. Other modifications include notching, end lateral, and burinated retouch. Most flake sizes are fairly similar, although the end lateral retouch item is on a blade-like flake. The burin has considerably greater thickness measures than other unifaces. The range of measures for most unifaces are 18 mm to 24 mm for width and 4 mm to 7 mm for thickness. In general, most unifaces are made on blade-like flakes. Cortex is generally absent, and most tools are made from local glacial quartzitic chert.

Modified flakes (N=3) are comprised of 1 thin polished flake without cortex, 1 multiple-flaked item, and 1 modified chunk. The


MAP 16
Site 21C4-97
Excavation Unit
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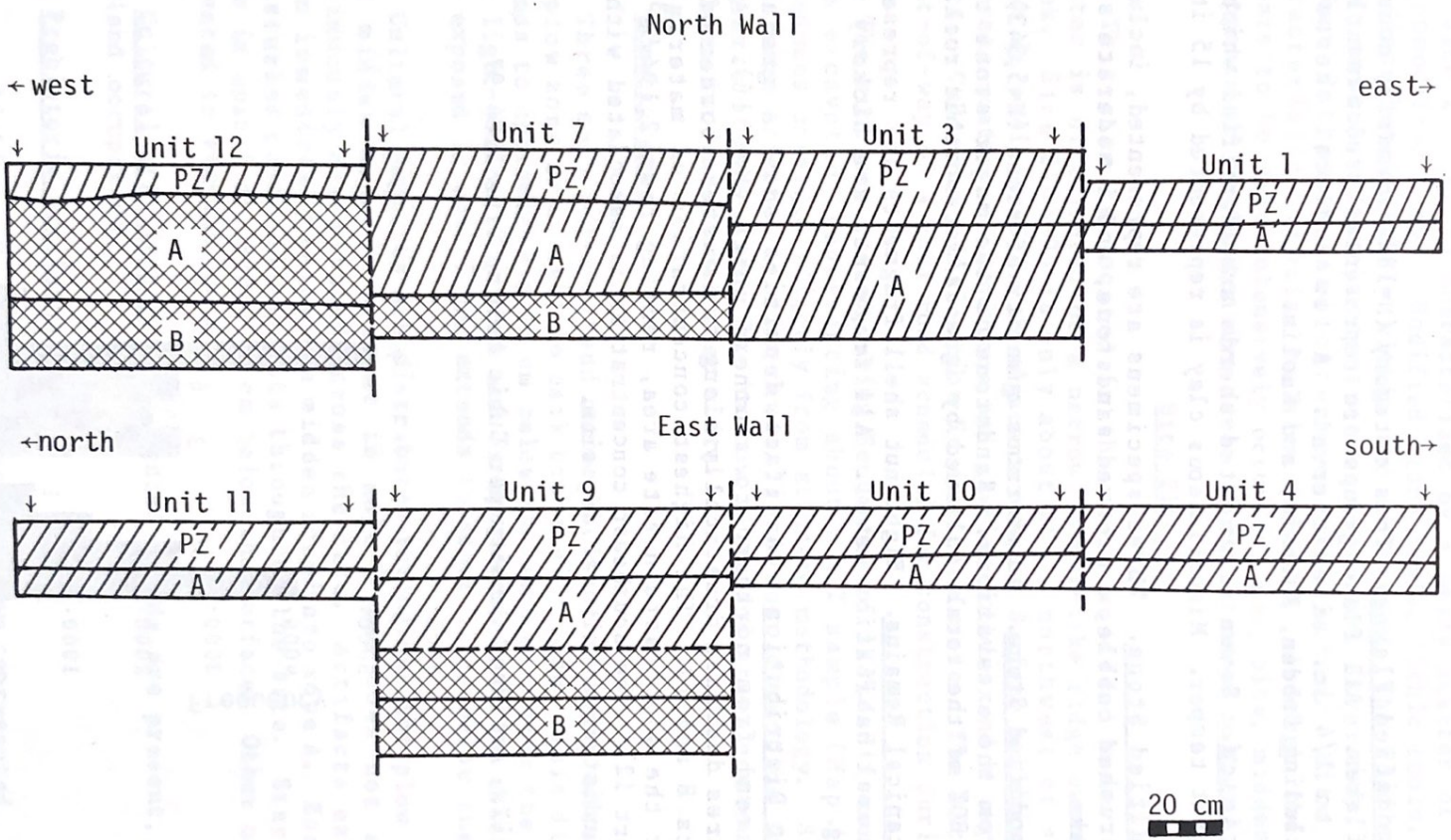



Figure 22

Site 21C4-97
Soil Profiles

multiple-flaked item lacks cortex and has end retouch and unilateral retouch. The modified chunk contains unilateral retouch and lacks cortex.

Unmodified Flakes. This category (N=182) primarily consists of interior flakes. All flake groups are represented predominantly in the 1/2 in. to 1/4 in. size interval. A few nonlocal cherts are apparent, including Cobden, Kinkaid, and Kaolin.

Ceramics. Seven fragmented sherds are identified which are composed of grit temper. Miscellaneous clay is represented by 15 items.

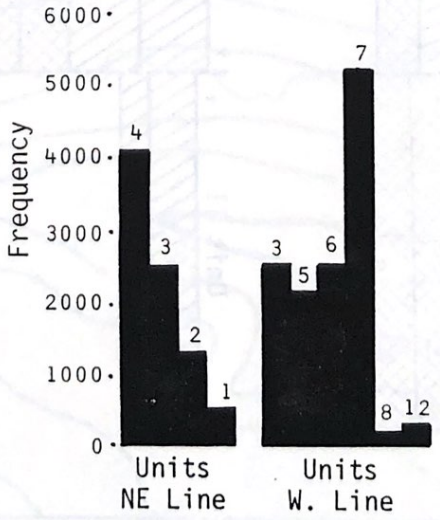
Modified Stone. Three specimens are represented, including 1 battered-crushed cobble, 1 grooved sandstone, and 1 moderate sized quartzite flake.

Unmodified Stone. An enormous quantity of stone (N=5,343) was recovered from the excavations. Sandstone is the major stone type, representing 80% of the total, followed by igneous/metamorphic rock.

Botanical Remains. Eight nut shell fragments are represented from the general habitation level. All fragments are hickory nuts weighing .3 g.

Artifact Distribution. Artifact densities show a gradually increasing trend from northern to southern units (Map 16). Also, density figures decrease drastically along the western border of the site in units 8 and 12. The highest concentration of material is located near the southeastern site area, ranging from 2,194/$m^3$ to 5,257/$m^3$ (Chart 12). The southeast concentration is associated with the rather deep undisturbed cultural deposits.

Chart 12. Artifact Density per Cubic Meter, Site 21C4-97



Summary

Site 21C4-97 is characterized by a heavy scatter of lithic debris and unmodified stone. Modified stone tools, lithic tools, and ceramics are distributed lightly within the site area. The Woodland occupation shows some artifact concentrations and tool diversity, suggesting a rather intensive and extensive habitation. Site content has characteristics similar to site 21C4-29, although the latter site appears to be more intensively occupied, i.e., pits, midden. Site 21C4-97 appears to have extensive areas of undisturbed cultural deposits.

## Site 21C4-98

This site is located in the slope woodland zone. The surface scatter is distributed on a narrow, bluff-like ridge overlooking Galum Creek. Site 21C4-98 is only about 200 m northwest of site 21C4-97, which is positioned on an adjacent ridge. Surface material indicates a moderate scatter of sandstone and glacial cobbles and a light scatter of chert. Cultural affiliation is indeterminate. The site was in the right-of-way of a haul road scheduled for construction during 1983.

The site was tested during September of 1979. Six excavation units were excavated, representing about a .1% sample (Map 17). Testing procedures diverged slightly from standard methodology. Six excavation units were oriented in a northwest/southwest direction following the long axis of the site. The narrow ridge and steep contours precluded the need for additional test units.

### Stratigraphy

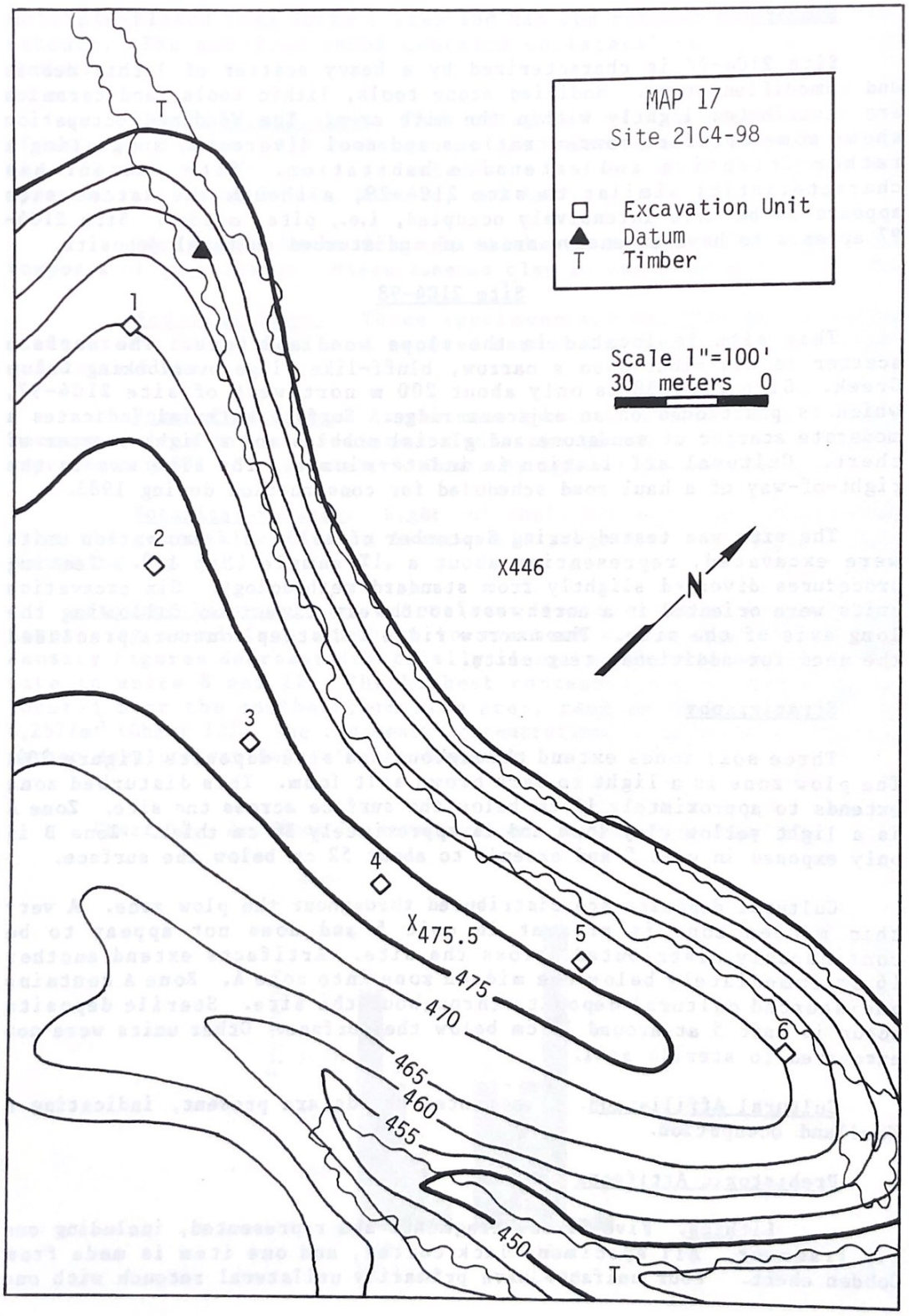
Three soil zones extend throughout the site deposits (Figure 23). The plow zone is a light to dark brown silt loam. This disturbed zone extends to approximtely 12 cm below the surface across the site. Zone A is a light yellow clay loam and is approximtely 36 cm thick. Zone B is only exposed in unit 5 and extends to about 52 cm below the surface.

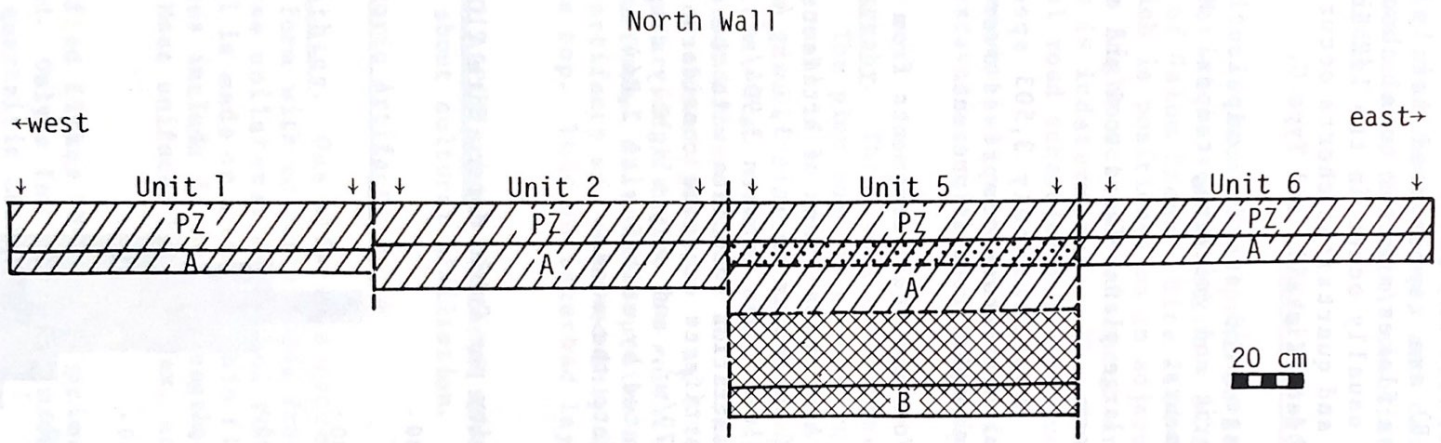
Cultural deposits are distributed throughout the plow zone. A very thin midden zone is present in unit 5 and does not appear to be continuously distributed across the site. Artifacts extend another 16 cm immediately below the midden zone into zone A. Zone A contains undisturbed cultural deposits throughout the site. Sterile deposits occur in unit 5 at around 32 cm below the surface. Other units were not excavated to sterile soil.

Cultural Affiliation. Fragmented sherds are present, indicating a Woodland occupation.

### Prehistoric Artifacts

Lithics. Five biface fragments are represented, including one tip fragment. All specimens lack cortex, and one item is made from Cobden chert. Four unifaces have primarily unilateral retouch with one


MAP 17
Site 21C4-98
Excavation Unit
Datum
T Timber
Scale 1"=100'
30 meters 0
N
X446
X475.5
T
1
2
3
4
5
6
475
470
465
460
455
450




Cultural Deposits
Midden
Steril Soil
Surface

Figure 23

Site 21C4-98
Soil Profiles

end lateral retouch. Cortex is present on 50% of the items, and chert type is local glacial material.

Unmodified flakes (N=118) are represented mainly by interior flakes, although decortication flakes/shatter total about 40% of the inventory. All flake groups usually occur in the 1/2 in. to 1/4 in. size interval. Local glacial and quartzitic cherts occur frequently, and nonlocal chert includes Cobden, Kinkaid, and Type C.

Ceramics. Two fragmented sherds comprise the pottery inventory. These items have grit and grit/grog temper. Miscellaneous clay is represented by 11 fragments.

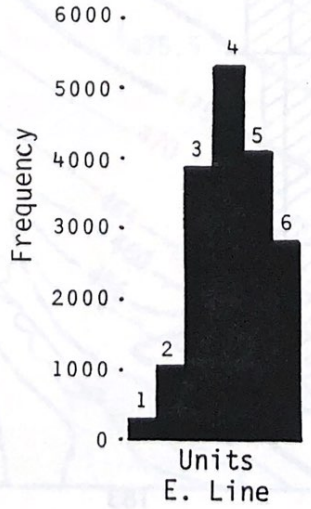
Modified Stone. One large planar-faced tool and one quartzite flake complete this tool category.

Unmodified Stone. Approximately 3,503 specimens were recovered from the excavation. Sandstone comprises over 90% of this material, and some igneous/metamorphic rock is present.

Botanical Remains. Four nut shell fragments from Carya glabra are represented, weighing .3 g.

Artifact Distribution. A unimodal peak of artifact densities is represented near the center of the ridge in unit 3, unit 4, and unit 5 (Map 17). Artifact density values range between 3,904/$m^3$ and 5,339/$m^3$ (Chart 13). This artifact concentration coincides with the small midden deposit observed in unit 5. Artifacts decrease considerably along the westernmost site area, with 379/$m^3$, and only slightly decrease within the eastern margins, represented by unit 6 with 2,844/$m^3$. The site probably extends further east into the woods.

Chart 13. Artifact Density per Cubic Meter, Site 21C4-98



Summary. Site 21C4-98 is very similar to site 21C4-97 in site context and site content. Site deposits are characterized as a heavy scatter of unmodified stone and lithic debris and a light scatter of lithic tools, modified stone, and ceramics. Undisturbed cultural deposits occur across the site, associated with probable discontinuous lenses of midden.

## Site 21C4-109

This site is located in prairie near sites 21C4-97 and 21C4-98. Surface material is scattered on a bluff-like ridge overlooking the bottomland of Galum Creek. Site 21C4-109 is only 200 m west of site 21C4-98, which is positioned on an adjacent ridge top. Surface material indicates a light scatter of chert and glacial cobbles. Cultural affiliation is indeterminate. The site was in the right-of-way of a proposed haul road scheduled for construction during 1983.

Test excavations were conducted during September and October of 1979. Six excavation units were investigated, representing a .3% sample (Map 18).

Stratigraphy. Three soil zones are identified in the soil profiles (Figure 24). The plow zone is a light to dark brown silt loam extending to depths between 12 cm and 20 cm below the surface. Extensive amounts of intrusive gravel from an adjacent hog lot are intermixed with plow zone deposits. Zone A is a light to dark yellow clay loam which is between 26 cm and 36 cm thick. This zone is thickest in unit 6 near the north edge of the ridge top. Zone B is a sticky, brown-yellow clay which appears at 40 cm below the surface and extends to at least 52 cm below the surface. Cultural deposits occur throughout the plow zone. Undisturbed artifacts are observed only in unit 3 along the east margins of the ridge top. This undisturbed layer has a maximum thickness of only 8 cm.

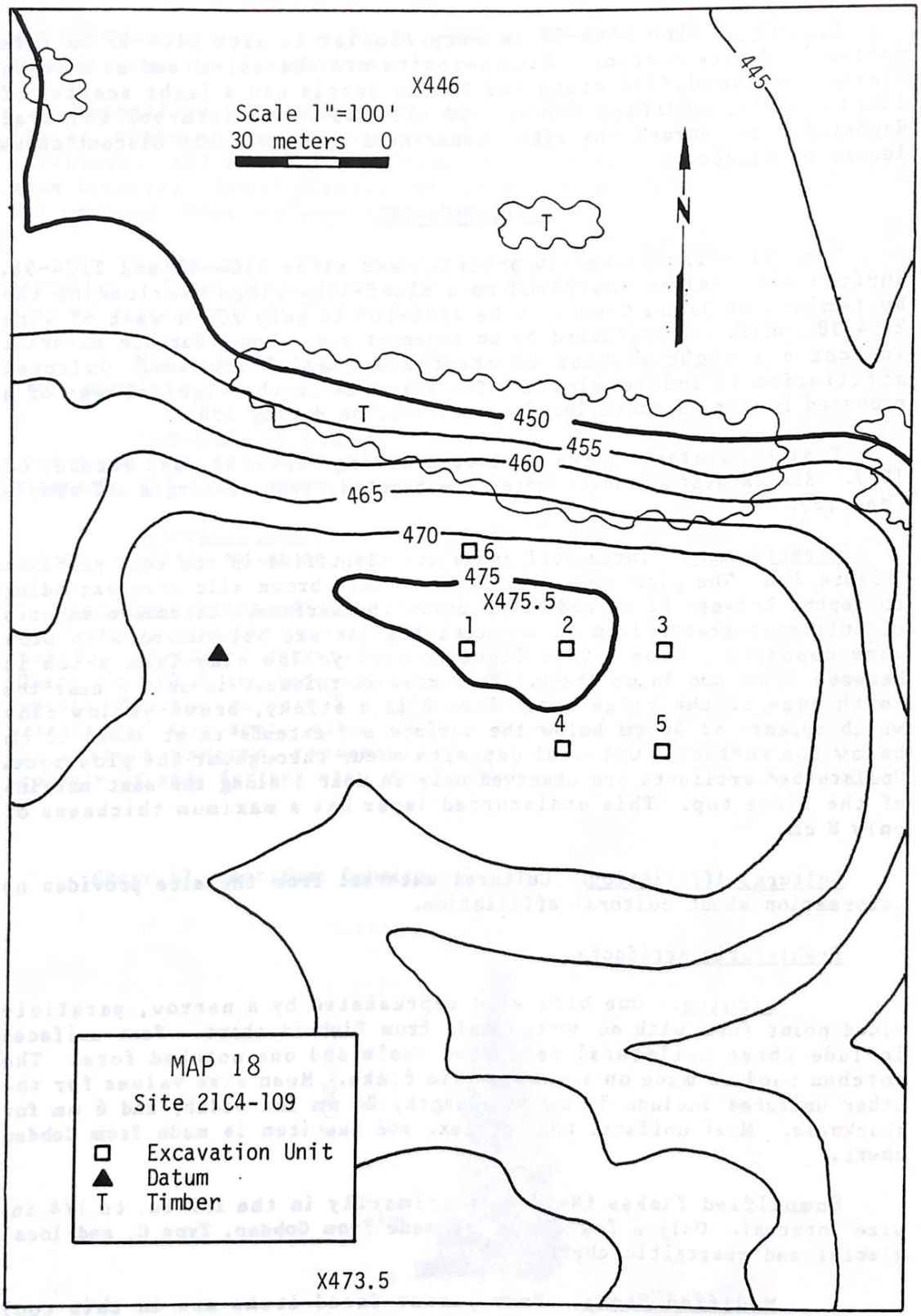
Cultural Affiliation. Cultural material from the site provides no information about cultural affiliation.

### Prehistoric Artifacts

Lithics. One biface is represented by a narrow, parallel-sided point form with no cortex made from Kinkaid chert. Four unifaces include three unilateral retouched tools and one notched form. The notched tool is made on a small, thin flake. Mean size values for the other unifaces include 31 mm for length, 24 mm for width, and 6 mm for thickness. Most unifaces have cortex, and one item is made from Cobden chert.

Unmodified flakes (N=17) are primarily in the 1/2 in. to 1/4 in. size interval. Only a few items are made from Cobden, Type C, and local glacial and quartzitic cherts.

Modified Stone. Four planar-faced items are in this tool category along with one quartzite flake.


X446
Scale 1"=100'
30 meters 0
N
T
T
445
450
455
460
465
470
475
6
X475.5
1
2
3
4
5
MAP 18
Site 21C4-109
Excavation Unit
Datum
T Timber
X473.5

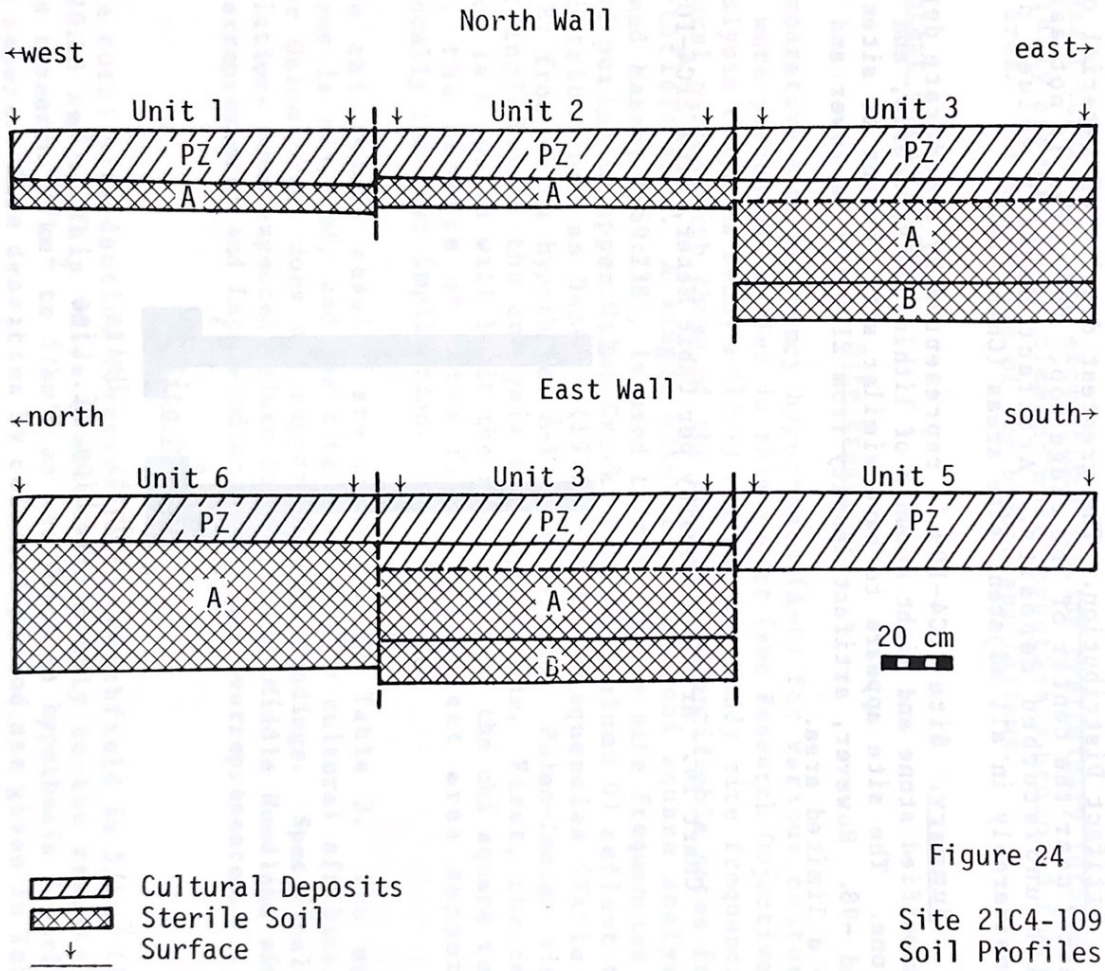



Figure 24

Site 21C4-109
Soil Profiles

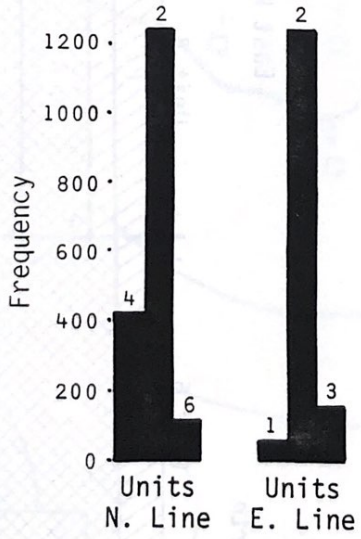
Unmodified Stone. This category is comprised of 327 items primarily consisting of sandstone and small amounts of igneous/metamorphic rock, linestone, and other sedimentary rock.

Historic Artifacts. Historic debris includes cinder and coal. These materials are considered intrusive items and probably did not result from historic occupation of the site.

Artifact Distribution. The greatest density of material occurs in unit 2 near the center of the ridge top. This area is not associated with undisturbed deposits. Artifact density values decrease considerably in all adjacent site areas (Chart 14).

Summary. Site 21C4-109 is represented by a moderate density of unmodified stone and light amounts of lithic tools, debris, and modified stone. The site appears to have similar site content to sites 21C4-97 and -98. However, artifact density from 21C4-109 is lower and confined to a limited area.

Chart 14. Artifact Density per Cubic Meter, Site 21C4-109



## SETTLEMENT ANALYSIS

Phase I survey and test excavations provide preliminary information to partially assess the settlement model hypotheses proposed for the project area. The evaluation of the hypotheses follows.

### Site Context and Occurrence

#### Site Frequency

Comparative site frequency hypotheses (A-F) for various cultural periods were presented earlier in this report (see Research Objectives). This analysis compares Denny's (1972) central Big Muddy site frequencies by cultural period with those of the culturally identifiable sites from the Northfield area. A single classification, chi square analysis (Dixon and Massey 1969:238), is used to test if the site frequencies by cultural period in upper Galum Creek (Table 3, Column O) reflect the same distributions as Denny's (1972:162-185) frequencies (Table 3, Column E) from which hypotheses A-F were derived. Paleo-Indian sites are not included in the analysis for two reasons. First, the cell frequency is 0, which will limit the reliability of the chi square test. Second, the absence of sites from the project area supports unequivocally the test implication.

The chi square results are presented in Table 3. The null hypotheses is rejected, and the site frequency by cultural affiliation in upper Galum Creek does not support Denny's findings. Specifically, the deviations from expected values indicate that Middle Woodland sites are underrepresented and Late Woodland sites are overrepresented.

#### Site Density

The total site density observed in the Northfield is $5/km^2$ (100 sites/20.23 $km^2$). This value compares favorably to the results of previous research ($1/km^2$ to $5/km^2$) as set forth in hypothesis F earlier in this report. Site densities by cultural period are given in Table 4.

#### Topographical Position

Three specific statements taken from hypotheses B and H (this report, Research Objectives) are addressed. They are:

Table 3. Chi Square Analysis of Site Frequency, Upper Galum Creek

| Cultural Affiliation | Northfield O | Denny E | (O-E) | $(O-E)^2$ | $(O-E)^2/E$ |
|---|---|---|---|---|---|
| Early Archaic | 3 | 2 | +1 | 1 | .5 |
| Middle Archaic | 8 | 5 | +3 | 9 | 1.8 |
| Late Archaic | 7 | 10 | -3 | 9 | .9 |
| Middle Woodland | 7 | 15 | -8 | 64 | 4.27 |
| Late Woodland | 11 | 5 | +6 | 36 | 7.2 |
| Mississippian | 3 | 2 | +1 | 1 | .5 |
| TOTAL | 39 | 39 | 0 | | $x^2=15.17$ |

D.F. = 5 $\alpha$ = .05 11.0705 $H_o$ = Rejected

Table 4. Site Density, Upper Galum Creek ($km^2$)

| Cultural Period* | PI | EA | MA | LA | EW | MW | LW | M |
|---|---|---|---|---|---|---|---|---|
| Site Frequency | 0 | 3 | 8 | 7 | 0 | 7 | 11 | 3 |
| Site Density ($km^2$) | 0 | .15 | .40 | .35 | 0 | .35 | .55 | .15 |

* PI = Paleo-Indian
EA = Early Archaic
MA = Middle Archaic
LA = Late Archaic
EW = Early Woodland
MW = Middle Woodland
LW = Late Woodland
M = Mississippian

Hypothesis B: Early Archaic sites will be located on higher elevations than other prehistoric sites in upper Galum Creek.

Hypothesis H: Prehistoric sites will cluster at 440-450/460 ft above sea level.

Hypothesis H: Prehistoric sites will be closer to perennial streams than intermittent streams.

Percentage calculations for all prehistoric periods by elevation and distance to nearest perennial stream are presented in Tables 5 and 6.

For the question raised by hypothesis B, a Kolmogorov-Smirnov two-sample test (Thomas 1976:322) of site frequencies by elevation for Early Archaic and other cultural periods is presented in Table 7. The test indicates that there are no significant differences between the two samples at the .05 significance level, thereby failing to support the hypothesis that Early Archaic sites occur on higher elevations than other prehistoric sites.

The second statement concerns prehistoric sites in relation to elevation. The stated elevation range in hypothesis H was too inclusive. Therefore, all prehistoric sites are tabluated (Table 8) by frequency of occurrence in four elevation intervals. Sites occurring in more than one elevation interval are counted in each interval. A single classification chi square analysis is implemented (Table 8). The null hypothesis is rejected; that is, prehistoric sites do show a nonrandom relationship with elevation at the .05 level of significance. Observation of cell values shows sites are overrepresented in the 450 ft elevation and underrepresented in the 460 ft and 470-480 ft elevations, supporting the lower range of the hypothesis H interval.

The third and final statement, as derived from hypothesis H, concerns the relationship of prehistoric sites and intermittent vs. perennial streams. It appears that Early Archaic sites are more frequent at the 183-610 m interval, Middle Archaic sites are not well represented in the 183-610 m interval, and Mississippian sites have higher frequencies at the 0-152 m interval (Table 6). All other cultural periods have similar frequency patterns. A series of Kolmogorov-Smirnov two-sample tests were conducted for each potential difference in stream distance by cultural period. The tests indicate no significant differences for Early Archaic sites with other cultural periods ($\alpha$ = .05, Difference = .41, D = .820, $H_o$ = Accept), for Middle Archaic sites with other cultural periods ($\alpha$ = .05, Difference = .19, D = .539, $H_o$ = Accept), and for Mississippian sites with other cultural periods ($\alpha$ = .05, Difference = .33, D = .817, $H_o$ = Accept).

Another important question is whether or not distances from perennial stream vary among all prehistoric sites in upper Galum Creek. A single classification chi square analysis is used for the three major stream intervals. The null hypothesis is accepted which is that there

Table 5. Site Percentages by Elevation, Upper Galum Creek

| Cultural Period | Elevation | | | | | | Total Raw |
|---|---|---|---|---|---|---|---|
| | 440 ft | | 450 ft | | 460-480 ft | | |
| | Raw | Percent | Raw | Percent | Raw | Percent | |
| Early Archaic | (1) | 33 | (2) | 67 | (0) | 0 | (3) |
| Middle Archaic | (2) | 25 | (5) | 62 | (1) | 12 | (8) |
| Late Archaic | (0) | 0 | (6) | 86 | (1) | 14 | (7) |
| Middle Woodland | (4) | 57 | (3) | 43 | (0) | 0 | (7) |
| Late Woodland | (3) | 27 | (6) | 54 | (2) | 18 | (11) |
| Mississippian | (0) | 0 | (3) | 100 | (0) | 0 | (3) |
| TOTAL | (10) | 26 | (25) | 64 | (4) | 10 | (39) |

Table 6. Site Percentage by Distance, Upper Galum Creek

| Cultural Period | Distance to Nearest Perennial Stream | | | | | | Total Raw |
|---|---|---|---|---|---|---|---|
| | 0-152 m | | 183-610 m | | 611-2,926 m | | |
| | Raw | Percent | Raw | Percent | Raw | Percent | |
| Early Archaic | (0) | 0 | (2) | 67 | (1) | 33 | (3) |
| Middle Archaic | (4) | 50 | (1) | 13 | (3) | 37 | (8) |
| Late Archaic | (3) | 43 | (3) | 43 | (1) | 14 | (7) |
| Middle Woodland | (4) | 57 | (2) | 28 | (1) | 14 | (7) |
| Late Woodland | (4) | 36 | (4) | 36 | (3) | 28 | (11) |
| Mississippian | (2) | 75 | (1) | 25 | (0) | 0 | (3) |
| TOTAL | (17) | 44 | (13) | 33 | (9) | 23 | (39) |

Table 7. Kolmogorov-Smirnov Two-Sample Test by Elevation, Upper Galum Creek

| Elevation | Early Archaic Raw | Early Archaic Cum.,% | Other Cultural Periods Raw | Other Cultural Periods Cum., % | Difference |
|---|---|---|---|---|---|
| 440 ft | 1 | .33 | 9 | .24 | .09 |
| 450 ft | 2 | 1.0 | 23 | .89 | .11 |
| 460-480 ft | 0 | 1.0 | 4 | 1.0 | .00 |
| | 3 | | 36 | | |

Table 8. Chi Square Analysis by Elevation, Upper Galum Creek

| Elevation | O | E | O-E | $O-E^2$ | $(O-E)^2/E$ |
|---|---|---|---|---|---|
| 430-440 ft | 22 | 25 | -3 | 9 | .36 |
| 450 ft | 66 | 25 | +41 | 1681 | 67.2 |
| 460 ft | 8 | 25 | -17 | 289 | 11.6 |
| 470-480 ft | 4 | 25 | -21 | 441 | 17.6 |
| TOTAL | 100 | 100 | 0 | | $x^2=96.76$ |
| D.F. = 3 | $\alpha$ = .05 | | 7.81473 | | $H_o$ = Reject |

are no differences between stream distances for prehistoric sites (D.F. = 2, $\alpha$ = .05, $x^2$ = .06, $H_o$ = Accepted). This suggests that sites do not cluster around Galum Creek, the perennial mainstream, but are equally distributed along intermittent tributaries, i.e., Rock Fork and Bonnie creeks.

In summary, the three statements originally derived from hypotheses B and H above can be restated to reflect the findings from the Northfield, Galum Creek, as discussed above. They are as follows:

Hypothesis B: Early Archaic sites are not located on higher elevations than other prehistoric sites in upper Galum Creek.

Hypothesis H: Prehistoric sites cluster around the 450 ft elevation above msl.

Hypothesis H: Prehistoric sites are equally distributed along both perennial streams and intermittent streams.

## On-site Vegetation

Specific assumptions as stated below and as derived from hypotheses I and C (this report, Research Objectives) are addressed:

Hypothesis I: Prehistoric sites in upper Galum Creek will be located primarily in slope woodland followed by post oak flats, prairie, and bottomland.

Hypothesis C: There is a significant increase in bottomland site location during the Middle and Late Archaic.

Percentages and frequencies of site locations by vegetation zone and cultural period are in Table 9. If a site location occurred in two zones, then the site is counted once for each zone.

Concerning hypothesis I, most sites from all cultural periods are located in the slope woodland. More importantly, there are no sites in the post oak flats, while sites appear similarly distributed in bottomland and prairie. Hypothesis I can be restated to reflect the Northfield data:

Hypothesis I: Prehistoric sites in upper Galum Creek will be located primarily in slope woodland, followed by prairie and bottomland zones, with no locations in the post oak flats.

Regarding hypothesis C, inspection of Table 9 clearly shows that Northfield data support the reformulation below:

Hypothesis C: Bottomland site locations do not increase during the Middle and Late Archaic; in fact, bottomland locations are sparse for all cultural periods.

## Discussion

The high frequency of Late Woodland sites (Table 3) does follow trends for this period in the Midwest (Ford 1974).

Concerning the high frequency of sites at the 450 ft elevation, it must be noted that the 450 ft elevation generally corresponds with ridges immediately adjacent to streams.

Table 9. Percentage and Frequencies of Sites by Environmental Zone and Cultural Period, Upper Galum Creek

| Cultural Period | Environmental Zone: Bottomland Freq. | Bottomland % | Slope Woodland Freq. | Slope Woodland % | Post Oak Flat Freq. | Post Oak Flat % | Prairie Freq. | Prairie % | Total |
|---|---|---|---|---|---|---|---|---|---|
| Early Archaic | 1 | 20 | 3 | 60 | 0 | 0 | 1 | 20 | 5 |
| Middle Archaic | 2 | 18 | 6 | 54 | 0 | 0 | 3 | 27 | 11 |
| Late Archaic | 0 | 0 | 7 | 78 | 0 | 0 | 2 | 22 | 9 |
| Middle Woodland | 2 | 25 | 5 | 62 | 0 | 0 | 1 | 13 | 8 |
| Late Woodland | 2 | 17 | 8 | 67 | 0 | 0 | 2 | 17 | 12 |
| Mississippian | 0 | 0 | 3 | 100 | 0 | 0 | 0 | 0 | 3 |
| TOTAL | 7 | 15 | 32 | 67 | 0 | 0 | 9 | 19 | 48 |

The distinction between perennial and intermittent streams in the Northfield probably was not justified since, at this upper area in the drainage system, Galum and its main tributries differ little in character.

The most characteristic feature of site locations is the preference for the slope woodland zone. However, the complete absence of sites in the post oak flats is noteworthy, since Pulcher (1974a:18-23, 26) reported prehistoric utilization of this zone in a survey just south of the present project area.

Site Content

This second phase of analysis focuses on site content to discover potential variation between sites and, hopefully, to provide a better understanding of settlement types.

This analysis is based on limited information from survey and test excavations at 13 sites. As stated earlier, the excavations sampled only between 0.3% and 0.03% of the area of each site. While these excavations were not implemented for extensive site area coverage, they did provide a consistent cross section of site cultural deposits. In this respect, the artifact inventory does not necessarily contain a representative sample of artifacts from the site which would be a prerequisite for reliable quantitative analysis. However, a large artifact inventory was collected which provides an opportunity to compare trends and patterns of the tool assemblage between sites. Artifact frequencies or raw magnitude differences among sites are not used to describe site variation.

The 13 prehistoric sites investigated here may only partially represent the potential prehistoric site variation in upper Galum Creek. Hopefully, a good cross section of sites within the Galum Creek drainage is represented in the sample. Five sites are adjacent to the Galum Creek mainstream (21C4-14, -27H, -29, -55, -97). Five sites are in settings further upland between the mainstream and its tributaries (21C4-58, -59, -85, -98, -109), and three sites are located far from the mainstream along upland tributaries (21C4-65, -66, -87). The major locational difference among sites in the sample is topography rather than accessibility to available vegetation resources.

Cultural affiliation includes both Archaic and Woodland occupations. Mississippian sites are not represented in this phase I site sample. Middle Archaic material is found on three sites (21C4-14, -29, -55) but is not clearly associated with any discrete occupation area. Late Archaic is represented on three sites (21C4-55, -85, -87). Only on sites 21C4-85 and 21C4-87 can distinct occupations be differentiated. Middle Woodland material is found on three sites (21C4-14, -27, -55) but can only be clearly differentiated on 21C4-27. Late Woodland artifacts are found on four sites (21C4-14, -29, -55, -87). Major occupations can be distinguished only on 21C4-14, -29, and -87. Woodland occupations are defined for 21C4-55, -97, -98.

Three settlement types (Binford 1980) previously described are important here: residential bases, field camps, and locations. The following discussions will attempt to differentiate the sites in question according to Binford's types.

## Site Size, Tool Density, and Assemblage Diversity

Site size can provide one assessment of site or settlement type. The limited number of procurement activities performed on locations or field camps should be reflected in smaller site size, whereas residential bases should have a larger size as a result of multiple activities. The major underlying assumption is that as the number of activities increases, site size increases. However, locations or field camps may appear as areally extensive as residential bases due to reoccupation over many seasonal rounds. Nevertheless, such small, repeated occupations over time, while increasing site size, should not proportionately increase the diversity of recoverable artifact classes. In other words, locations and field camps should have a restricted tool kit vs. the diverse, multifunctional tool kit recoverable at residential bases.

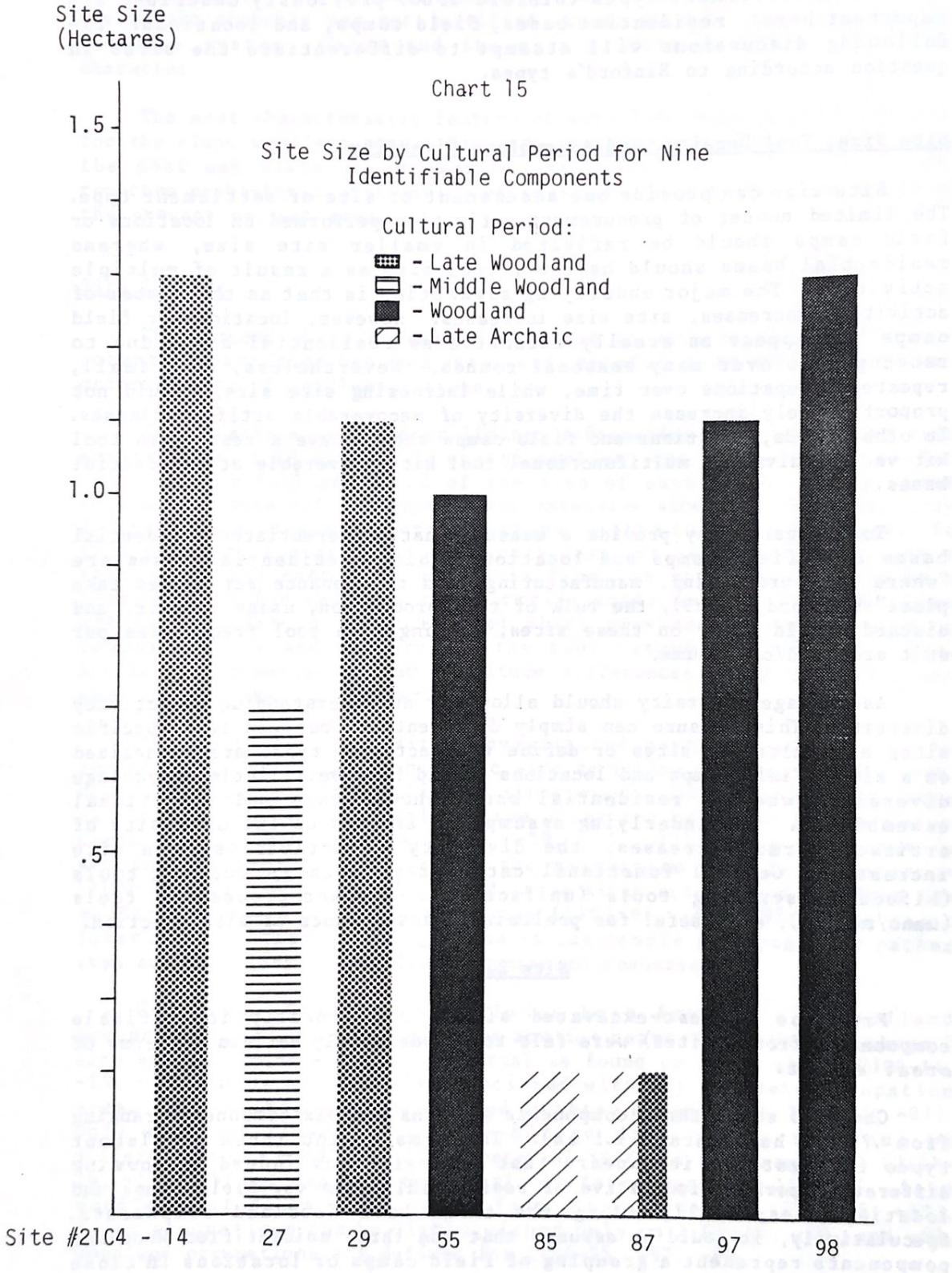
Tool density may provide a measure that differentiates residential bases from field camps and locations. Since residential bases are "where most processing, manufacturing, and maintenance activities take place" (Binford 1980:9), the bulk of tool production, usage, repair, and discard should occur on these sites, leaving high tool frequencies per unit area and/or volume.

Assemblage diversity should allow for an understanding of activity diversity. This measure can simply differentiate between task-specific sites and multitask sites or define what activity types are emphasized on a site. Field camps and locations should have very little assemblage diversity, whereas residential bases should have multifunctional assemblages. The underlying assumption is that as the diversity of artifact forms increases, the diversity of activities on a site increases. General functional categories, such as cutting tools (bifaces), scraping tools (unifaces), and plant-processing tools (mano/metate), are useful for preliminary assessments of site function.

## Site Size

From the 13 test-excavated sites, 9 culturally identifiable components (from 8 sites) were felt to be adequately defined in terms of areal extent.

Chart 15 shows three components at .2 ha and six components ranging from .7 -1.3 ha (average 1.1 ha). In terms of the three settlement types in question, it appears that site size may indeed be showing differences perhaps indicative of residential bases vs. field camps and locations, especially among the three Late Woodland components. Speculatively, it could be assumed that the three unidentified Woodland components represent a grouping of field camps or locations in close


Site Size
(Hectares)
Chart 15
Site Size by Cultural Period for Nine
Identifiable Components
Cultural Period:
- Late Woodland
- Middle Woodland
- Woodland
- Late Archaic
1.5
1.0
.5
Site #21C4 - 14
27
29
55
85
87
97
98

proximity, since sites so large might be expected to have had diagnostic material if the occupations were indeed residential bases. Site 21C4-27 could represent either a base or field camp.

## Tool Density

Stone tools, limited to bifaces, unifaces, modified flakes/chert chunks, and modified stone are tabulated per cubic meter of excavated deposits for the 13 sites (Table 10).

As the stone tools could not be adequately separated by component for site 21C4-87, the total site size was used and the tools lumped for presentation in Figure 25. This information reveals a definite trend toward higher tool density as site size increases, especially if the three aberrant sites (21C4-55, -97, and -98) are ignored. Recall that these were the three sites just discussed above as possible groupings of field camps or locations; the tool density information here supports that idea.

Combining site size and tool density information, sites 21C4-14, -27 and -29 appear as quite good candidates for residential bases, while the remaining sites are potential field camps and locations.

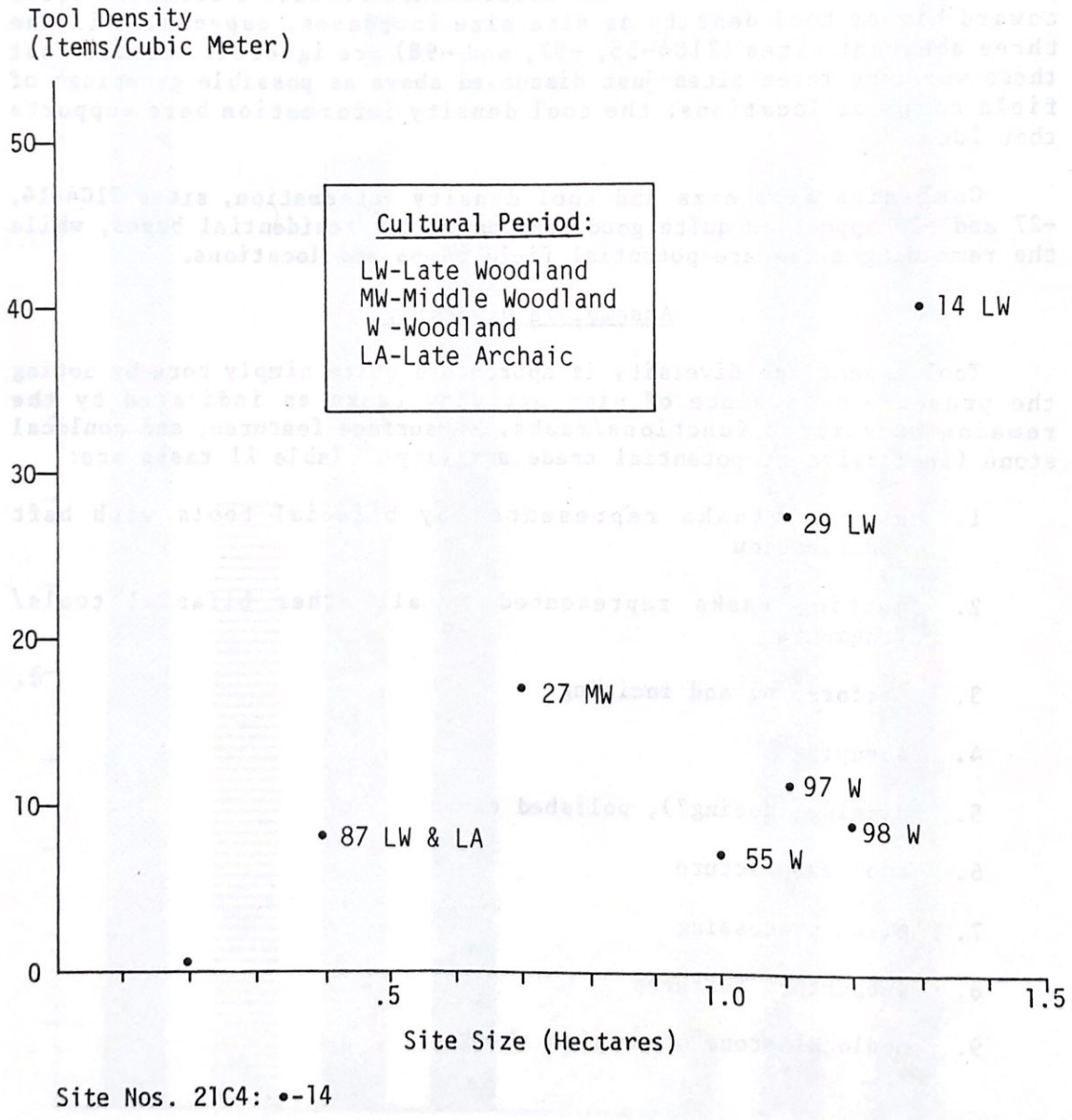
## Assemblage Diversity

Tool assemblage diversity is approached quite simply here by noting the presence or absence of nine activity tasks as indicated by the remains of various functions/tasks, subsurface features, and nonlocal stone (indicative of potential trade activity). Table 11 tasks are:

1. cutting tasks represented by bifacial tools with haft modification
2. cutting tasks represented by all other bifacial tools/ fragments
3. perforating and incising
4. scraping
5. digging (hoeing?), polished chert
6. tool manufacture
7. plant processing
8. subsurface features
9. nonlocal stone other than chert

Figure 25

Scattergram-Site Size and Tool Density
for 8 Sites with Identifiable Cultural Components




Site Nos. 21C4: •-14

Table 10. Tool Density per Cubic Meter for 13 Prehistoric Sites, Upper Galum Creek

| Site 21C4- | 14 | 27 | 29 | 55 | 58 | 59 | 65 | 66 | 85 | 87 | 97 | 98 | 109 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Tool Density (cubic meter) | 40 | 17 | 27 | 7 | 0 | 0 | 6 | 0 | 0 | 8 | 11 | 9 | 5 |

Table 11. Activity Tasks for 13 Prehistoric Sites, Upper Galum Creek

| Site 21C4- | Activity Tasks 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | % of Tasks |
|---|---|---|---|---|---|---|---|---|---|---|
| 14 | x | x | x | x | x | x | x | x | x | 100 |
| 27 | x | x | | x | x | x | x | x? | | 78 |
| 29 | x | x | x | x | x | x | x | x | | 89 |
| 55 | x | x | x | x | | x | x | | | 67 |
| 58 | | | | x | | | | | | 11 |
| 59 | | | | | | | | | | 0 |
| 65 | | x | | | x | | | | | 22 |
| 66 | | | | | | | | | | 0 |
| 85 | x | | | | | | | | | 11 |
| 87 | x | | | | | | | | | 11 |
| 97 | x | x | x | x | x | x | | | | 67 |
| 98 | | x | | x | | | x | | | 33 |
| 109 | | | x | x | | | x | | | 33 |

Given the limited nature of the test excavation sample, Table 11 is best summarized by noting that sites 21C4-14, -27, and -29, and to a lesser extent 21C4-55 and -97, contain diverse remains and may be potential residential bases.

## Discussion

Reviewing the information above on site size, tool density, and assemblage diversity, the question of site type can be approached.

Site size would indicate that sites 21C4-14, -27, -29, -55, -97, and -98 are in the running for potential residential bases.

Tool density, however, narrows the field to sites 21C4-14, -27, and -29.

Assemblage diversity still leaves sites 21C4-14, -27, and -29 but returns sites 21C4-55 and -97 as potential residential bases.

In summary, the full range of site types appear to be present in the Northfield. Further work beyond the present test excavations should provide valuable information on prehistoric utilization of this section of the till plains.

## EVALUATION AND RECOMMENDATIONS

### Results of Assessment

This assessment has resulted in the location, description, and analysis of 117 archaeological sites and/or cultural remains dating between 8000 B.C. and the present. Of this total, 100 sites have prehistoric components, and 29 sites have historic components. Thirty nine prehistoric sites are assigned to the following periods: Early Archaic (N=3, 8%), Middle Archaic (N=8, 20%), Late Archaic (N=7, 18%), Middle Woodland (N=7, 18%), Late Woodland (N=11, 28%), and Mississippian (N=3, 8%).

The 29 historic components range in age from the Pioneer to the Agricultural/Industrial periods. Included in the sample are farmsteads, house sites, and cemeteries. A few of the farmsteads contained structural remains such as foundations and collapsed buildings. In addition to these archaeological sites, a historic architectural assessment was conducted at five intact farmsteads which were accessible to the survey party. They were either recently vacated or still occupied. Buildings at these sites range in age from the late nineteenth to early/mid-twentieth centuries. It is considered that the farmsteads and structures on the Northfield are not architecturally unique or significant. Further, they do not meet the criteria for nomination to the National Register of Historic Places (see this report, Research Objectives, Design, and Methodology).

Most sites occur in slope woodland (72%), followed by bottomland (8%), prairie (9%), slope woodland/prairie (8%), post oak flats (2%), and bottomland/slope woodland (1.5%). Prehistoric occupations are characterized by light to moderate densities of chert and glacial cobbles. Only two sites, 21C4-14 and 21C4-29, had heavy surface densities of artifacts and organic staining.

Test excavations were conducted on 13 prehistoric sites in imminent danger of destruction by premining activities and of special research importance. These sites represented bottomland locations (15%), slope woodland locations (46%), prairie locations (15%), and slope woodland/prairie locations (23%). Of these sites, six had either undisturbed deposits or midden. Two sites contained subsurface features.

## Evaluation of Phase I Objectives and Methods

The Phase I research design, methods, objectives, and hypotheses have been previously stated (see this report, Research Objectives, Design, and Methodology). The three primary objectives -- to locate, to assess, and to complete Phase I work -- have been achieved. Thirteen prehistoric sites have been evaluated by test excavation. The secondary objectives have been achieved or will be achieved during the course of mitigtion.

Further, a sample of 38 prehistoric (45 components) sites was selected for mitigation. The diversity, density, and cultural complexity of the archaeological resources of the Northfield demanded that a stratified random sample be drawn from the total number of sites located. Key cultural and environmental variables, including cultural affiliation, distance from nearest perennial stream, and vegetational context within a 1 mi radius, were used to insure a representative sample (Table 12). In addition, a representative sample of nine historic sites was selcted for future mitigation.

Hypotheses related to a temporal and spatial settlement model were generated and partially tested. Questions regarding locational patterns, site size, tool density, and assemblage diversity were addressed. Statements about site locations by vegetation zones, elevation, and distance to nearest perennial stream were explored. Preliminary evaluations were made concerning site types.

Site surface collecting techniques were hindered by diverse ground cover conditions. This variability required adopting subsurface excavation, including screening as the technique to recover artifacts for comparison between sites. A .5% sample was unrealistic based on the project time frame. As an alternative method, excavation and screening were maintained, but 1 $m^2$ units were placed at 20 m intervals across the site. This method provided a good cross section of site deposits and an adequate example of site assemblages for this initial research.

## Phase III Mitigation Recommendations

Some cultural resources surveys and assessments allow for the consideration of mitigative alternatives; that is, the site or resource may be preserved through avoidance, realignment of construction rights-of-way, or abandonment of construction plans. However, this nation's needs for coal, the destructive nature of surface mining, and the nature of archaeological resources in question preclude alternative mitigation plans. The most viable and practical means of mitigating the adverse impacts of premining construction and surface mining on the sites selected is to preserve the scientific and cultural data through excavation and analysis.

Table 12. Cross Tabulation of Cultural and Environmental Variables Used for Site Sample Selection, Upper Galum Creek

| Cultural Affiliation | Distance from Nearest Perennial Stream (m) 0-152 | 183-610 | 611-2926 | Vegetational Context* I & II | II & III | I,II & III | I,II & IV | I,II,III & IV |
|---|---|---|---|---|---|---|---|---|
| Mississippian | 2 | 1 | | | | 1 | 2 | |
| Late Woodland | 3 | 2 | 1 | | | 2 | 1 | 3 |
| Woodland | 1 | 0 | 1 | | | 1 | | 1 |
| Middle Woodland | 2 | 0 | 2 | | | 1 | 1 | 2 |
| Late Archaic | 3 | 1 | 1 | | | 1 | 1 | 3 |
| Middle Archaic | 3 | 1 | 1 | | | | 2 | 3 |
| Early Archaic | 0 | 2 | 1 | | | 1 | 1 | 1 |
| Unknown | 5 | 7 | 5 | 1 | 1 | 4 | 2 | 9 |
| TOTAL | 19 | 14 | 12 | 1 | 1 | 11 | 10 | 22 |

* Vegetational Context

I - Bottomland
II - Slope Woodland
III - Post Oak Flat
IV - Prairie

Recommendations, Prehistoric Sites

Two stages of recommendations are presented dealing with the purposive and probability sample, followed by the test excavations. A brief discussion of site significance has been presented in the Research Objectives, Design, and Methodology section above. Within this framework, the following recommendations are made from Phase I research results.

Of the 117 archaeological sites in the project area, a sample of 38 prehistoric sites and 9 historic sites are selected as significant and recommended for further mitigation. The site sample recognizes the potential temporal, economic, and social variability among the archaeological resources in the Northfield (Table 13) and recognizes the legal, scientific, and public significance of the resources. It is important to note that this sample measures potential variation. As our understanding of archaeological resources increases, this proposed variation may decrease; that is, not all sites in the sample will be considered different which might decrease the number of sites for future mitigation. Information produced at progressive phases of research can be used to more efficiently mitigate the resources.

The different schedule of impact activities (ca. 1980-1985+) requires a scheduled mitigation plan. Based on current information regarding future mining activities, and in selective cases the recognized (rather than potential) research significance, sites are assigned a mitigation priority ranking from 1 to 4. Eleven sites are assigned a priority 1 rank. With the exception of sites 21C4-9, -14, -25, and -27, priority 1 sites are located in the proposed diversion channel and in the earliest premining construction areas west of Galum Creek. Sites 21C4-9, -14, and -27 are not scheduled for destruction until 1984 or 1985. However, their unique and significant cultural and scientific values require that research begin as early as possible. Site 21C4-9 is the last survivor of the known Mississippian stone box grave sites along Galum Creek. The two other sites have been destroyed; and, although the graves at site 21C4-9 have been looted, enough of the site remains to gain valuable scientific information. The significance of the site and its location, very close to the immediate mining area west of the Jamestown road, require that research begin as early as possible.

Like site 21C4-9, sites 21C4-14, -27, and -29 are significant cultural resources which contain important scientific information. Their proximity to early mining areas and the following observations indicate a priority 1 rating.

1. All three sites have undisturbed cultural deposits which will provide a good view of site structure.

Table 13. Prehistoric Sites Recommended for Mitigation

| Site No. 21C4-* | Estimated Date (Year) of Destruction | Mitigation Priority |
|---|---|---|
| 9 | 1984+ | 1 |
| 14 T | 1985+ | 1 |
| 25 | 1985+ | 4 |
| 27 T | 1984+ | 1 |
| 29 T (P) | 1980-81 | 1 |
| 34 | 1985+ | 4 |
| 35 | 1985+ | 4 |
| 46 | 1985+ | 4 |
| 53 | 1985+ | 4 |
| 55 T | 1984+ | 3 |
| 56 | 1980-81 | 1 |
| 57 | 1980-81 | 1 |
| 58 T (P) | 1980-81 | 1 |
| 59 T (P) | 1980-81 | 1 |
| 60 | 1984+ | 3 |
| 61 | 1984+ | 3 |
| 62 | 1984+ | 3 |
| 65 T M | 1980 | 1 |
| 69 | 1984+ | 3 |
| 74 | 1985+ | 4 |
| 77 | 1985+ | 4 |
| 78 | 1985+ | 4 |
| 85 T | 1981 | 2 |
| 87 T M | 1980-81 | 1 |
| 92 | 1984+ | 3 |
| 96 | 1984+ | 3 |
| 98 T | 1981 | 2 |
| 99 | 1985+ | 4 |
| 103 | 1985+ | 4 |
| 105 | 1985+ | 4 |
| 110 (P) | 1980-81 | 1 |
| 118 | 1984+ | 3 |
| 122 | 1984+ | 3 |
| 123 | 1984+ | 3 |
| 129 | 1984+ | 3 |
| 132 | 1985+ | 4 |
| 133 | 1984+ | 3 |
| 147 | 1985+ | 4 |

* T - Site Tested 1979 M - Mitigation Completed
(P)- Site not Selected in Random Sample, but in Purposive Sample

2. The dominant occupations at 21C4-14 and 21C4-29 are Late Woodland, and at 21C4-27, Middle Woodland. Indications are that there is little mixing with other cultural periods. This type of occupation could contribute significantly to our understanding of Late and Middle Woodland subsistence-settlement without the many complications of multiple occupations.

3. Sites 21C4-14 and 21C4-29 contain floral and faunal remains which will provide important subsistence information and knowledge about the prehistoric utilization of the natural resources in the till plains. These sites also contain subsurface features which will provide extensive floral and faunal remains in a controlled chronological context.

4. Site size, tool density, tool diversity, and extensive cultural deposits reflect intensive occupations on 21C4-14, -27, and -29 which are unique settlement characteristics for this interior upland area.

5. All three sites are in the site sample and represent potentially different settlement types which can be compared and evaluated.

Only two sites are assigned a priority 2 rating. Both 21C4-85 and 21C4-98 are located in the northwest corner of the research area and are scheduled for destruction in 1981. In addition to these early mining considerations, test excavations at 21C4-85 and 21C4-98 indicate that the sites have unique, task-specific tool assemblages which offer opportunities for functional tool studies. In addition, both sites appear in the random site sample and represent potential socioeconomic variation.

Priority 3 sites are either directly adjacent to Galum Creek on the west bank or are between Galum Creek and the Jamestown road. If work proceeds as expected, these would not be impacted until 1984 or later.

Priority 4 sites are located on Bonnie Creek on the east side of the Jamestown Road. These sites should not be threatened until 1985 or later.

Sites Not Requiring Additional Assessment or Mitigation

It is our opinion and recommendation that the remaining prehistoric archaeological sites will not require additional assessment or mitigation. These include sites 21C4-38, -39, -40, -42, -43, -44, -45, -51, -52, -54, -63, -64, -66, -67, -68, -70, -71, -73, -75, -76, -79, -80, -81, -82, -84, -88, -89, -90, -91, -95, -97, -100, -102, -104, -106, -107, -108, -109, -110, -114, -115, -116, -117, -119, -120, -121, -124, -125, -130, -131, -134, -136, -137, -140, -141, -142, -144, -145, -146, -148, -149, and -150.

To better understand the rationale for not conducting additional research at these sites, a brief comparison of this sample with the site sample recommended for mitigation is helpful. Of the 62 sites listed above, 55, or 88.7%, are of unknown cultural affiliation. The site sample recommended for mitigation contains 17 sites of unknown cultural affiliation (Table 12). Therefore, 23.6% of all sites of unknown cultural affiliation will be examined. There are six Middle Woodland components; two are included in the above list, while four (66.6%) are recommended for mitigation. Of seven Late Archaic components, five (71.4%) are recommended for mitigation; and, of seven Late Woodland components, six (85.7%) are recommended for mitigation. It may be seen from these data that temporal and cultural variability is well represented in the mitigative sample and, when combined with the environmental variables (Table 12) utilized in the sample stratification, demonstrates the adequacy of the approach.

## Historic Sites Recommended for Mitigation

The following historic sites (Table 14) were selected for additional research and mitigation. Sites were chosen based on historic artifact samples and historic land records. Two sites which may date to the Pioneer period are of special importance. Site 21C4-93H is near the earliest cemetery in the Northfield (21C4-15/H), Green/Sprague) and may represent the original homestead of Levi Green. Site 21C4-135H represents a similar situation and is near the Huggins Cemetery, another area of early settlement. It is our opinion that archaeological research is extremely important at Pioneer period sites. The remainder of the sites chosen represent occupations from the other historic periods.

## Conclusions

In our continuing effort to keep pace with premining construction activity and through the excellent cooperation of Consolidation Coal Company, Phase II mitigation is already completed at four priority 1 sites (Tables 13 and 14). Mitigation is being conducted under a research design which incorporates the problems and hypotheses presented in this report. Mitigative techniques include controlled surface collection, test excavations, large-scale site excavations, soil analysis, aerial photography, recovery of paleobotanical and paleozoological data, and other currently accepted field and research methods.

It is our opinion that the recommendations are consistent with the nature and extent of the cultural resources discovered and that the mitigation plans are appropriate for both the resource base and the nation's energy requirements.

Table 14. Historic Sites Recommended for Mitigation

| Site No. 21C4-* | Estimated Date (Year) of Destruction | Historical Period | Mitigation Priority |
|---|---|---|---|
| 38H | 1985+ | E. Agri. | 4 |
| 86H | 1980-81 | E. Agri. | 1 |
| 93H | 1980-81 | Pioneer | 1 |
| 104H | 1985+ | Agri/Ind. | 4 |
| 110H M | 1980-81 | E. Agri. | 1 |
| 125H M | 1980-81 | Pi.-Agri. | 1 |
| 126H | (destroyed) | Agri/Ind. | - |
| 135H | 1980-81 | Agri/Ind. | 1 |
| 137H | 1984 | Ind. | 3 |

* M - Mitigation completed

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# APPENDIX A

## Definition and Description of Prehistoric Artifact Groups, Northfield, Galum Creek

## APPENDIX A: DEFINITION AND DESCRIPTION OF PREHISTORIC ARTIFACT GROUPS, NORTHFIELD, GALUM CREEK

### Definition of Terms

The following are brief explanations and definitions of terms and categories used in this appendix.

Core: any block or nodule (flake) from which flakes have been removed (White 1963:6).

### Biface Series (Figure 1)

Biface, Plain: includes those complete tool forms with flaking extending over both ventral/dorsal surfaces but without pointed blades and haft elements. This category includes both utilized tools and unutilized preforms or blanks.

Biface, Pointed: a biface having converging lateral edges.

Biface, Beveled: a biface with either one or more beveled lateral edges or a beveled distal end (Figure 1D).

Biface, Haft Element Fragment: refers to a biface exhibiting haft modifications either by notching, edge grinding, or stem preparation.

Biface, Narrow, Parallel-sided, Pointed: a biface with a narrow, parallel-sided blade, steep-angled lateral edges, and a bi-triangular cross section, commonly referred to as a drill.

Biface, Pointed, Haft Element: a pointed biface with haft modification, commonly referred to as a projectile point (Figure 1B).

Biface, Narrow, Parallel-sided, Pointed, Haft Element: has the same characteristics as narrow, parallel-sided, pointed bifaces except that it has a haft modification (Figure 1H).

Biface, Haft Element, End Beveled: a biface with a beveled distal edge and a haft modification, commonly referred to as a hafted scraper (Figure 1C).

Biface Fragment: refers to a fragment of a bifacially worked tool which lacks sufficient form to be placed into any of the above categories.

## Uniface Series (Figure 3)

Previously, these have been referred to as scrapers and utilized flakes. It is likely that some were multipurpose tools serving a variety of functions or that some were highly specialized.

End Retouch: refers to marginal, unifacial retouch on the distal or proximal end of a flake or blade (Figure 3D, E).

Lateral Retouch: refers to unifacial retouch on the margins of flakes and blades on either or both sides of the longitudinal axis (Crabtree 1972:72) (Figure 3B, C, E).

Notch: refers to a semicircular indentation produced by unifacial flaking (Figure 3F).

Burin: a flake removed from the edge of an object, usually parallel to the long axis or transversely or obliquely oriented (Crabtree 1972:48) (Figure 3H).

Nosed: a blunt projection produced by two unifacial flaked notches (Figure 3F).

Spur: pertains to flakes with one or more tiny, sharp projections (Faulkner and McCollough 1973:82), usually formed by two unifacially flaked notches or lateral edges (Figure 3F).

Pointed: refers to a pointed distal/proximal end produced by converging, unifacially retouched lateral edges (Figure 3G).

Bifacial Retouch: refers to marginal retouch on both the dorsal and ventral faces of a flake or blade (Figure 3A).

Polish: pertains to the glossy texture on a flake in a digging or cutting capacity produced by heavy utilization. Polished flakes are usually removed from a larger tool.

Modified Flake, Multiple Flaked: pertains to a flake or blade with multiple forms of marginal retouch (Figure 3F).

Modified Shatter/Chunk: pertains to any blocky or irregular piece of chert, with no observable flake characteristics, which has been retouched.

## Unmodified Flake Series (Figure 4)

Cortex: generally refers to the natural surface or "rind" on chert-like material (Crabtree 1972:56).

Debitage: residual lithic material resulting from all stages of tool manufacture (Crabtree 1972:58). Debitage can be further classified into shatter and flakes.

Shatter: cubical and irregularly shaped chunks or pieces having few or no definitive characteristics such as bulb of force, platform, etc. Shatter is generally the result of both heavy percussion techniques and the cleavage of raw material along old fracture planes such as frost cracks (Binford and Quimby 1963:278-279).

Flake: "Any piece of stone removed from a large mass by the application of force. . . " (Crabtree 1972:64). Flakes exhibit a platform and bulb of force of the proximal end. They may be of any size, shape, or dimension depending on which technique was used for detachment; the size of piece of raw material, or core; and the desired finished product.

Decortication Flake: "A flake which has the dorsal surface partially or wholly covered by the unmodified cortex of the raw material with the ventral surface showing scarring from heavy percussion" (Binford and Quimby 1963:287).

Primary Decortication Flake: a decortication flake whose entire dorsal side is covered with cortex. Generally, these flakes are assumed to have been removed solely for the purpose of removing the cortex, which generally renders the flake unsuitable for most types of tools and were discarded (White 1963:5).

Secondary Decortication Flake: a decortication flake whose dorsal surface, lateral or distal sides, is only partially covered with cortex. These flakes were also removed for the purpose of removing the remaining cortex. However, edges which are free of cortex permit the flake to be used for certain types of tools (White 1963:5).

Interior Flake: a flake with no cortex.

## Modified Stone Series (Figure 2)

These tools are commonly referred to as utilized glacial cobbles.

Stone, Pitted: any rock which has distinctive concavities on one or more surfaces, commonly referred to as a nutting stone (Figure 2A).

Stone, Battered-crushed: refers to igneous or metamorphic rock which shows definite evidence of battering/crushing on one or more surfaces or edges, commonly referred to as a hammerstone (Figure 2A).

Stone, Planar-faced: any rock with one or more faces worn smooth and flat by grinding/abrasion, commonly referred to as a mano (Figure 2A).

Stone, Planar-concave Faced: refers to any type of rock with a shallow concavity worn into a flat surface through grinding/abrasion, commonly referred to as a metate (Figure 2B).

Stone, Polished: any type of crystalline rock which has been worn to a very smooth and glossy to semiglossy finish.

Stone, Modified Fragments: refers to chunks or pieces of any type of rock which exhibit some modification but which lack sufficient form to be placed in any definitive tool category.

Stone, Grooved: refers to any rock (but usually sandstone or limestone) which has either a U-shaped or V-shaped groove on one or more surfaces, commonly referred to as an abrader.

Stone, End Beveled: any rock with a beveled distal end, commonly referred to as an axe or delt.

Chert Types

Nine chert types used by prehistoric populations in upper Galum Creek are described below. Five cherts, including Cobden, Kinkaid, Mill Creek, Kaolin, and Bailey, are thoroughly described in a manuscript entitled Prehistoric Chert Exploitation in the Shawnee Hills by Ernest May (n.d.). Most descriptions of these cherts are extracted from this manuscript. Four cherts, including Glacial, Type C, Type D, and Local 1, are types related specifically to the chert sample studied in the upper Galum Creek. Two of these types are derived from local till deposits, and two types are of unknown geological origin.

1. Cobden: this chert is defined as a St. Louis series chert derived from St. Louis Limestone. Five variants of this chert category, of which Cobden is one variant, are characterized as "hornstone, chert that is smooth to the touch, microcrystalline in structure, and gray to blue to black in color" (May n.d.:22). Cobden chert outcrops together with Dongola chert at two source areas in the Illinois Ozarks (May n.d.:26). The difference between the two chert variants is the alternating light and dark concentric banding of Cobden chert. Cobden is a nodular chert commonly 5 to 15 cm in diameter with a weathered, buff-colored, smooth cortex. The chert interior is dark blue to black and has a microcrystalline structure. Aboriginal utilization of this chert is known throughout southern Illinois and the middle Mississippi Valley (May n.d.:26-28).

2. Kinkaid: this chert is derived from the uppermost Mississippian cherts in the Kinkaid Limestone formation (May n.d.:7, 10). It outcrops geologically within the central hills and Illinois

Ozarks of southern Illinois. The chert occurs as nodules, lenses, and beds, of which the latter form is most frequent geologically. "Bedded Kinkaid chert is highly fossiliferous, being oolitic in nature" (May n.d.:15). Other characteristics include a smooth texture, a brown and dark blue chert interior, and a beige to orange cortex with a pitted surface. Both chert sources in the central hills and Illinois Ozarks were extensively exploited during aboriginal times (May n.d.:15-16).

3. Mill Creek: this chert outcrops from the Salem formation which underlies St. Louis series cherts (May n.d.:7). The name is derived from the famous quarries located 1 mi west of the village of the same name in Union County. Mill Creek chert occurs in thin, flat nodules with a well developed rough brown cortex. In cross section, it often approximates an elongated ellipse. The interior color ranges from grayish-brown through red-brown and yellow (Phillips 1900). The chert was extensively used during Woodland and Mississippian times for the manufacture of digging and agricultural implements. Chert visually conforming to this description also occurs at the Kaolin source area.

4. Kaolin. the geological origin of this chert has not been determined although it is expected that Kaolin originated from local Mississippian cherts (May n.d.:7). Kaolin outcrops geologically in the central Illinois Ozarks at Iron Mountain just south of Alto Pass. The chert is nodular but is not frequently symmetrical. Other chert characteristics include a rough and pitted cortex, a grainy inner chert texture, a smooth-grained outer chert texture, a milk white inner chert color, a translucent white outer chert color, and a wide variety of colors created by iron oxide in the chert near the cortex. Kaolin has been observed on aboriginal sites in southern Illinois (May n.d.:18-20).

5. Bailey: this chert is from Devonian limestone and is derived from the Bailey formation (May n.d.:7). Bailey outcrops along the Big Muddy River and Hutchins Creek in the Pine Hills section of the Illinois Ozarks. The chert is characterized by irregular nodules and bedded fragments, thin and smooth beige cortex, a hornstone-like inner chert matrix with a beige color and some mottling, and a rough and porous outer chert matrix with a light beige color. Aboriginal utilization of this chert is found on sites in the Pine Hills and a few sites in Saline County (May n.d.:37-38).

6. Glacial: this chert is derived from till deposits located near White Walnut Creek in Perry County, Illinois. The chert is unlike other smaller gravel cherts by having a rather large, irregular nodular shape with a consistent microcrystalline structure. The inner chert matrix has a smooth texture and a grayish white color. The exterior of the nodule varies from a water-worn cortex to a patinated, water-worn chert. Glacial chert occurs frequently on aboriginal sites in the White Walnut Creek area and the vicinity around Galum Creek.

7. Type C: this chert is derived from the Burlington formation and outcrops in Illinois, Missouri, and Iowa. The Crescent quarries in the St. Louis area are a well-known source. It shares some characteristics with Tamms chert, which might be derived from a

Devonian, Silurian, or lower bedrock system in areas south of the greater Shawnee Hills (May n.d.:40). The only observable similarities with the aforementioned cherts are a milk white color, a fine microcrystalline structure, and a smooth, dull interior chert matrix. The major difference with Crescent chert is the absence of mottled areas with diverse colors in the inner chert matrix and a glossy appearance. The major dissimilarities with Tamms chert are the absence of fault fractures and brittleness in the chert matrix and a chalky surface appearance (May n.d.:39-40).

8. Type D: this chert is probably derived from local gravel and pebble cherts. Type D is characterized by a quartzite-like inner chert matrix, a rough or course texture, some fissure planes in the chert matrix, and a poor microcrystalline structure. The chert appears to have poor knapping characteristics.

9. Local 1: the geological source for this chert is unknown. One fragmented chunk of this chert was collected from a small ravine in the upland areas of upper Galum Creek. This ravine is located near a prehistoric site and may be derived from site deposits. The chert chunk had a thick cortex (about 5 cm) which had a rough texture and a beige color. The chert interior exhibited a dark gray color, a matte appearance, a coarse texture, internal fracture planes, a poor microcrystalline structure, and many small holes created by the erosion of fossils from the chert matrix. This latter characteristic is the most common element among chert specimens observed in the artifact collections. This chert is rarely present on prehistoric sites in the upper Galum Creek, probably due to its poor knapping qualities.

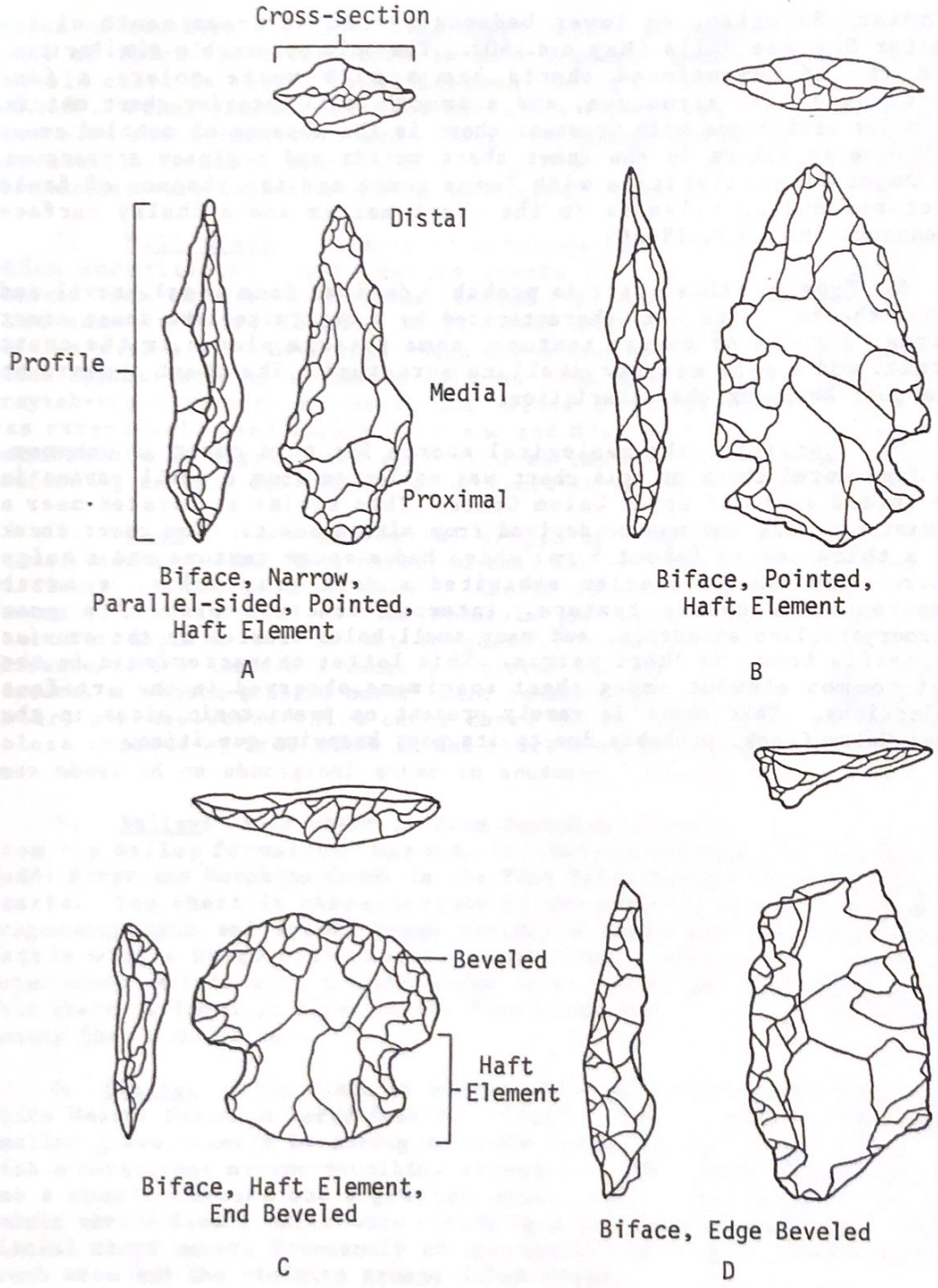


Figure 1
Bifacial Tool Attributes

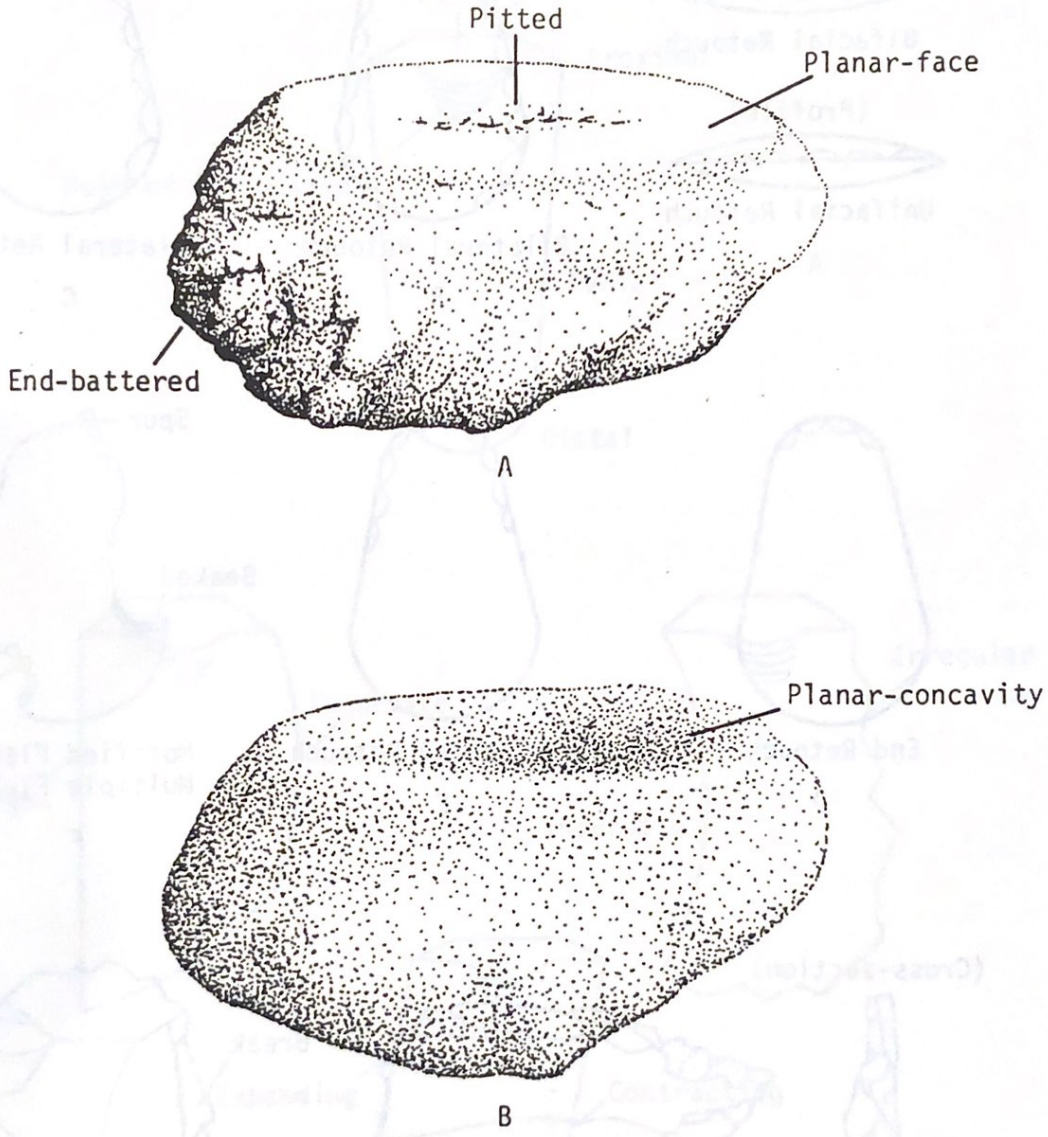


Figure 2

Utilized Cobble Attributes

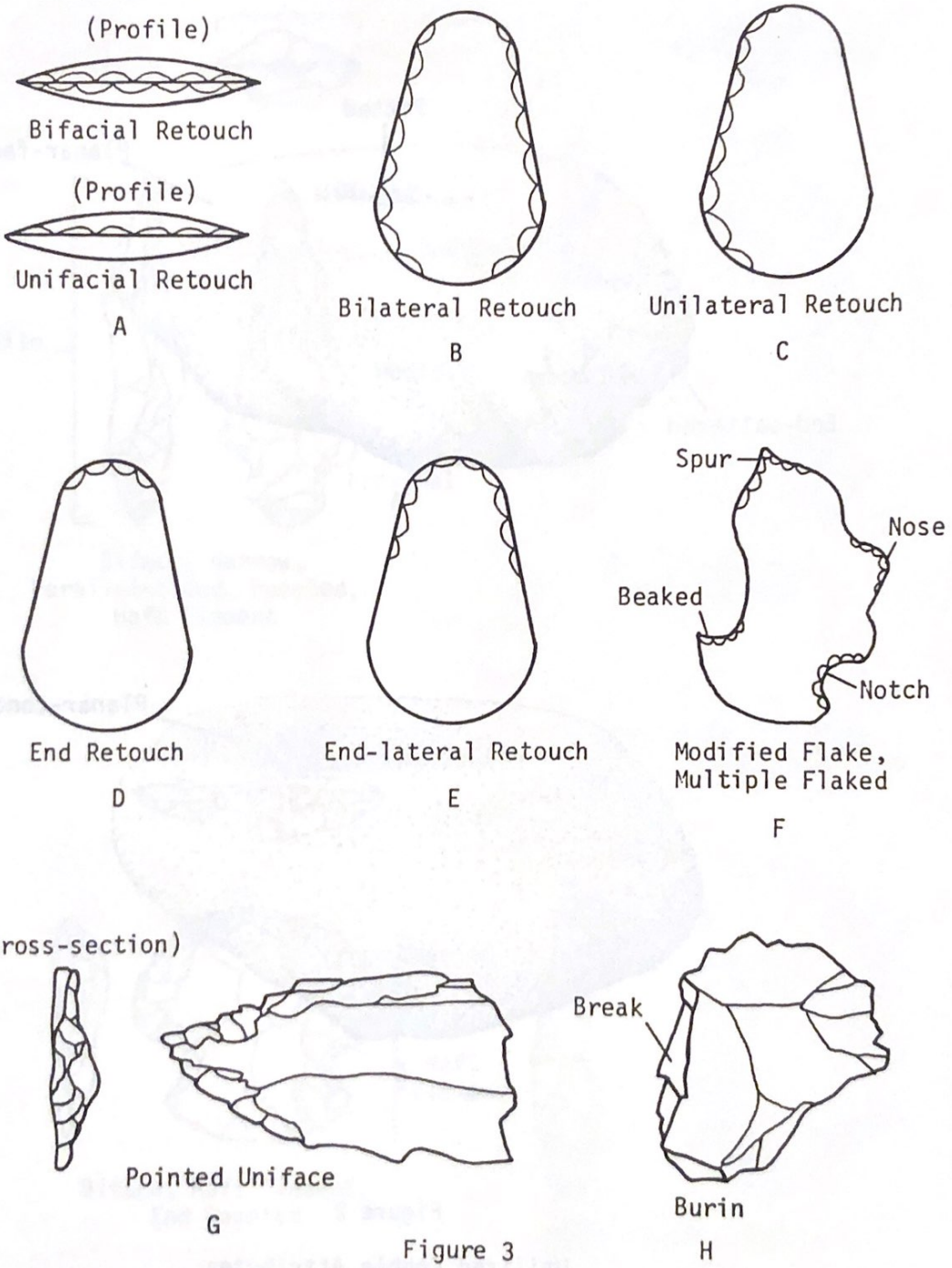


Figure 3

Flake Tool Attributes

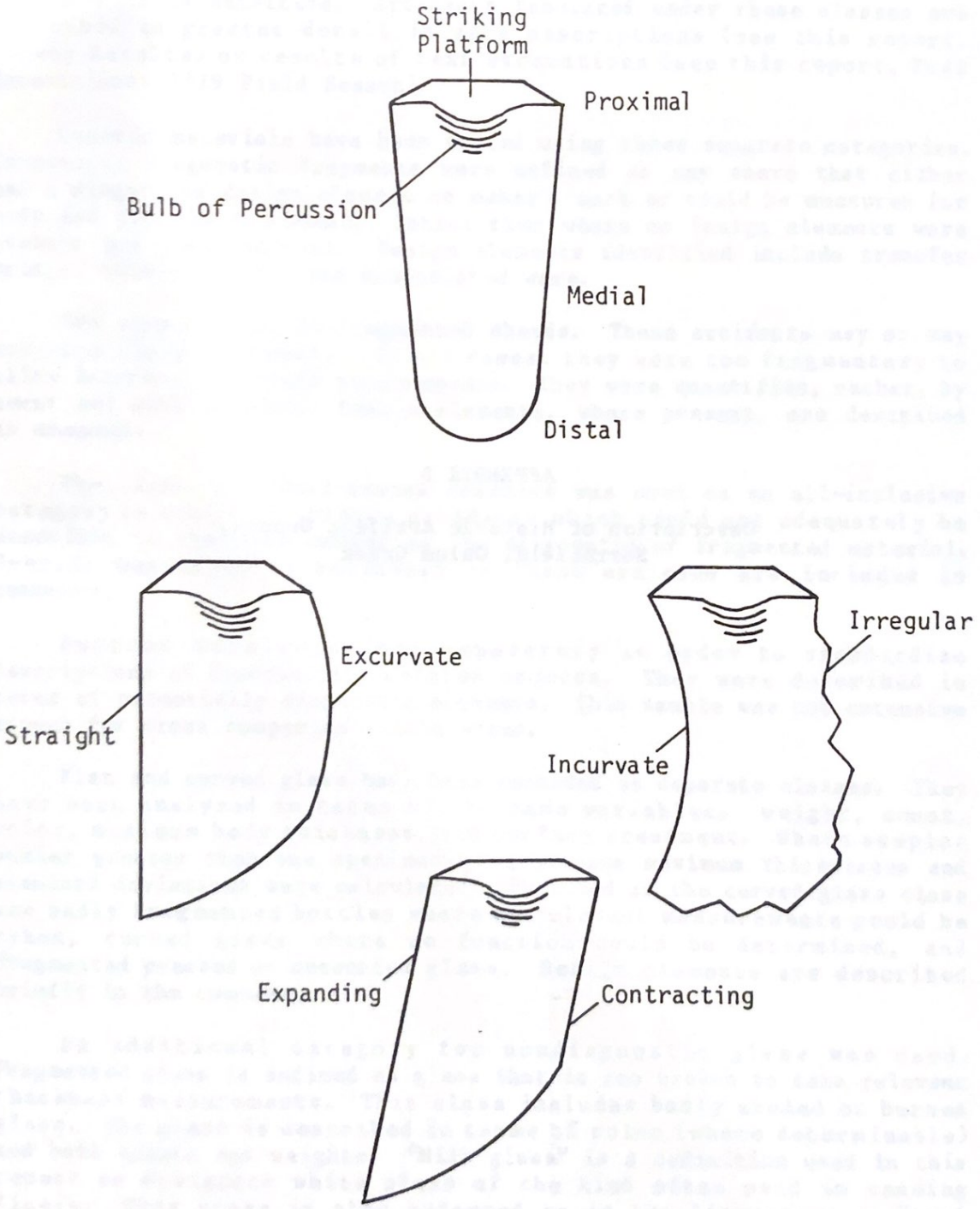


Figure 4

Flake Nomenclature and Edge Shapes

# APPENDIX B

## Description of Historic Artifact Groups, Northfield, Galum Creek

Twelve artifact classes were utilized to sort, quanitfy, and describe historic materials. Several specific classes were found to be chronologically sensitive. Artifacts tabulated under these classes are described in greater detail in site descriptions (see this report, Survey Results) or results of text excavations (see this report, Test Excavations: 1979 Field Season).

Ceramic materials have been sorted using three separate categories. Temporally diagnostic fragments were defined as any sherd that either had a diagnostic design element or maker's mark or could be measured for body and for rim thickness. Intact rims where no design elements were present are also included. Design elements identified include transfer prints, raised relief, and handpainted ware.

The second class is fragmented sherds. These artifacts may or may not have design elements. In all cases, they were too fragmentary to allow accurate thickness measurements. They were quantified, rather, by count and bulk weights. Design elements, where present, are described in comments.

The class of miscellaneous ceramics was used as an all-inclusive category to quantify ceramic artifacts which could not adequately be described in the same manner as the diagnostic or fragmented material. Special measurements necessary on these articles are included in comments.

Buttons were described separately in order to standardize descriptions of functionally related objects. They were described in terms of potentially diagnostic elements. This sample was not extensive enough for cross comparison among sites.

Flat and curved glass have been recorded as separate classes. They have been analyzed in terms of the same variables: weight, count, color, maximum body thickness, and surface treatment. Where samples number greater than one specimen, the average maximum thicknesses and standard deviations were calculated. Included in the curved glass class are badly fragmented bottles where no relevant measurements could be taken, curved glass where no function could be determined, and fragmented pressed or decorated glass. Design elements are described briefly in the comments.

An additional category for nondiagnostic glass was used. Fragmented glass is defined as glass that is too broken to take relevant thickness measurements. This class includes badly eroded or burned glass. The glass is described in terms of color (where determinable) and bulk counts and weights. "Milk glass" is a definition used in this report to designate white glass of the kind often used in canning liners. This glass is also referred to in the literature as "opal glass" (McKay 1979:46) or porcelain.

Diagnostic characteristics of intact or fragmented bottles have been discussed in the sections on Survey Results or Test Excavations: 1979 Field Season. The illustration for bottles (Figure 1) included

here lists indices used to describe these artifacts. In addition to indices, analysis considered construction methods, closure types, color, and portion, all of which are strong temporal indicators. Comments may include any surface treatment, paper labels, embossing, and bottle marks.

Metal was separated into general classes of nails, unidentifiable metal, and identifiable metal. Nails were analyzed in terms of condition and the shape of both the head and the shaft. Bulk counts and weights were recorded in order to attain an idea of the mass which was excavated from each provenience. Any unusual characteristics are described in comments.

Miscellaneous unidentifiable and identifiable metal was described according to identifiable features. Where possible, a function was assigned and discussed in comments. Construction material was described even when function could not be determined. Again, bulk weights and counts were recorded for each sample.

Brick, cinder, coal, and unmodified stone (in a historical context) were considered as historical site by-products. Only weights and counts were distinguished as relevant characteristics. Surface modification of brick, such as lettering or glazing, was found to be infrequent in the Galum Creek collections. These characteristics have been recorded in comments.

During the process of analyzing the materials from Galum Creek, it became evident that an all-inclusive class for unusual historic artifacts was necessary. This class was used to describe materials that would not fall into any of the above classifications based on construction material. Because these items are individualistic and to treat them separately would be cumbersome, they are grouped into a single class. This category is called Miscellaneous Historics and includes items constructed of plastic, wood, modified stone, rubber, etc. Artifacts in this class were described in terms of construction material, function, and diagnostic characteristics. Bulk weights were also recorded.

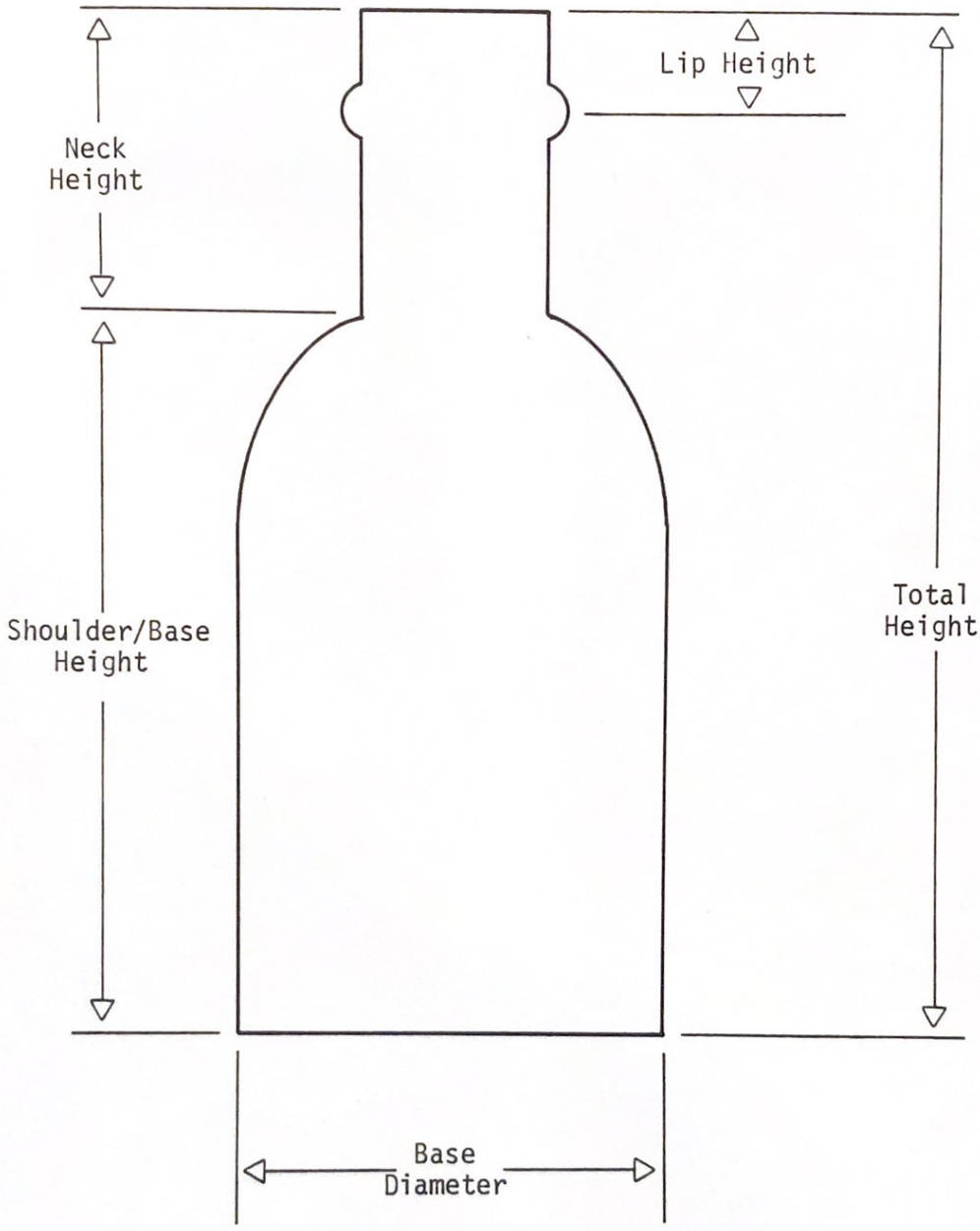


Figure 1
Bottle Measurements